

2012

Using Positive Behavior Instructional Support (PBIS) in early childhood

Megan Merkel
University of Northern Iowa

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Using Positive Behavior Instructional Support (PBIS) in early childhood

Abstract

Challenging behaviors in early childhood education are becoming recognized as a serious barrier to social-emotional development and an indication of severe maladjustment in school and adult life. Educational professionals have been seeking to define, elaborate, and improve on existing knowledge related to the prevention and resolution of young children's challenging behaviors. The current literature review was conducted to describe the relationship between children's challenging behavior and implementing Positive Behavior Instructional Support (PBIS) and Functional Behavior Assessment (FBA) in early childhood classrooms and programs. In addition, this review presents conclusions, recommendations, suggested educational policies, and needed future research.

Using Positive Behavior Instructional Support (PBIS) in Early Childhood

A Graduate Review

Submitted to the

Division of Early Childhood Education

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

By

Megan Merkel

December 2012

This Review by: Megan Merkel

Titled: Using Positive Behavior Instructional Support (PBIS) in Early Childhood

has been approved as meeting the research requirement for the
Degree of Master of Arts in Education.

1-18-13
Date Approved

1-18-13
Date Approved

1-18-13
Date Approved

Jill M. Uhlenberg

Gloria Kirkland Holmes
Graduate Faculty Reader

Gloria Kirkland Holmes

Jill M. Uhlenberg
Graduate Faculty Reader

Jill M. Uhlenberg

Head, Department of Curriculum and Instruction

ABSTRACT

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CHAPTER I

Introduction

Description of Topic

Challenging behaviors are part of development. It is not uncommon for a 2-year-old to yell when told he or she cannot do something, or for a 3-year-old to hit another child who has taken his or her toy. These behaviors are expected to decrease during the preschool years as other developmental skills, such as language and cognitive problem-solving skills, increase. However, it is estimated that approximately 10% of children continue to display these and other challenging behaviors during the preschool years (Kupersmidt, Bryant, & Willoughby, 2000). Preschool children with multiple risk factors (poverty, single parent homes, inadequate health care), or those that may have been exposed to other events or influences that have impacted their social development have a greater risk for the development of behavior problems (Conroy & Brown, 2004; The Center on the Social and Emotional Foundation for Early Learning, 2006). Qi and Kaiser (2003) reported 30% of children from low socioeconomic status (SES) backgrounds as having behavior problems compared to 3%-6% of children in the general population.

Punitive consequences are often used to deal with these problem behaviors. Gilliam (2005) reported that prekindergarten children were expelled at a rate that was three times that of children in K-12 grades. Expulsion rates were lowest in classrooms located in public schools and in Head Start and were highest in faith-affiliated centers and in for-profit child care centers. As a result of limited training and expertise in dealing

with children's challenging behaviors among early childhood teachers and staffs and childcare providers, young children who demonstrate serious and persistent challenging behaviors do not receive appropriate research-based interventions that are needed to decrease the intensity and frequency of challenging behavior. Often these children are dismissed from early childcare programs due to their challenging behavior (Conroy & Brown, 2004). Expulsion rates decreased significantly in programs with access to classroom-based behavioral consultation from mental health professionals (Gilliam, 2005). Preschool teachers reported children's challenging behaviors were their greatest concern (Alkon, Ramler, & MacLennan, 2003). Kaiser, Cai, Hancock, and Foster (2002) concluded as many as one fourth to one third of 3-year-old children in Head Start were perceived by their teachers as having high levels of problem behavior.

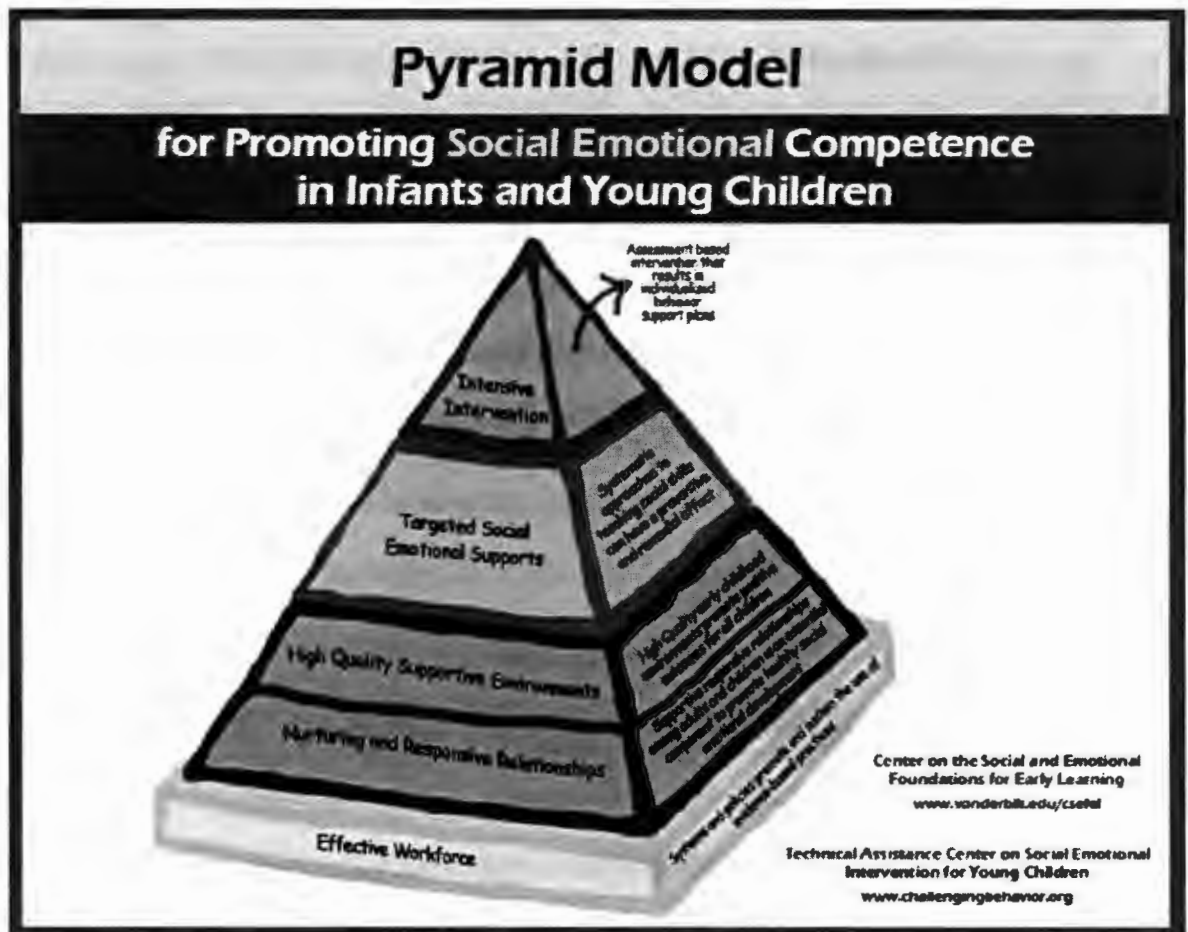
The Teaching Pyramid. Positive Behavior Instructional Support (PBIS) is based on the Teaching Pyramid. Fox and Smith (2007) stated the pyramid model:

Provides guidance for early intervention and education programs on the practices necessary to promote young children's healthy social and emotional development, prevent problem behavior, and provide individualized intensive interventions when necessary. The model includes the *universal promoting* practices that are needed to support **all children** and promote children's healthy social, emotional and behavioral development. (p. 2)

The pyramid model has been widely circulated by two federally-funded research and training centers (Fox, Carta, Strain, Dunlap, & Hemmeter, 2009): the Center on the Social Emotional Foundations for Early Learning (CSEFEL) and the Center on Evidence-Based Practices: Young Children with Challenging Behavior, which is now funded as the

Technical Assistance Center on Social Emotional Interventions for Young Children (TACSEI). Figure 1 shows the Teaching Pyramid as displayed on the CSEFEL and the TACSEI websites.

Figure 1. The Teaching Pyramid



The three-tiered pyramid rests on the base of having an effective workforce working within a program that has established research-based policies and procedures. Staff members should be provided professional development focused on building a leadership team and developing group processes and norms. An effective workforce is

the foundation for social, emotional, and behavioral outcomes for young children.

Training should include background knowledge about the intervention, demonstration of key skills by coaches and practice of key skills by trainees. Training is necessary for teachers, staff, and administrators. The team should have an understanding of the intervention, early childhood education, early intervention, child development, and early childhood special education (Mincic, Smith, & Strain, 2009). Professional development should provide time for staff to collaborate together to create: a statement of purpose, clearly defined behavioral expectations (Carter, 2011; Hemmeter, Fox, Jack, & Broyles, 2007; Muscott, Pomerleau, & Szczesiul, 2009), procedures for teaching expectations and expected behaviors, procedures for encouraging expected behaviors, and procedures for discouraging challenging behaviors. Professional development time should also be used to train staff on data based decision making. Staff should have consistent and clear definitions of behaviors. A recording sheet needs to be found or created for incidents. The staff should determine procedures for responding to incidents when they occur (Hemmeter et al., 2007; Muscott et al., 2009). Program-wide expectations need to be identified (Frey, Lee Park, Browne-Ferrigno, & Korfhage, 2010; Hemmeter et al., 2006; Muscott et al., 2009; Stormont, Lewis, & Beckner, 2005) by all staff to give them a shared language for guiding children within activities and social interactions. These expectations should be posted throughout the program using pictures and icons so that children and staff can begin to see these as a core part of their program (Frey et al., 2010; Hemmeter et al., 2007; Jollivette & Steed, 2010; Stormont et al., 2005). Once identified, a systematic plan for teaching and acknowledging the expectations needs to be developed (Frey et al., 2010; Jollivette & Steed, 2010; Muscott et al., 2009; Stormont et al., 2005).

Children should learn these expectations within meaningful contexts across multiple environments (Stormont et al., 2005), which means that all staff should be focusing on the same expectations (Muscott et al., 2009). A schedule for teaching and maintaining expectations, activities, and strategies can be developed. Lessons focused on teaching expectations should include a verbal explanation of what the words mean, picture examples and demonstration by the children of the rule behaviors, and question and answer sessions in which children identify examples and nonexamples of following expectations (Jollivette & Steed, 2010). Strategies could include role-playing, modeling, discussion, practice, feedback in context, prompts and cues, and reflection (Stormont et al., 2005). Materials to use include books, puppets, social stories, and games (Hemmeter et al., 2007).

Acknowledgment of children's behaviors should be intentional and specific (Frey et al., 2010; Jollivette & Steed, 2010; Stormont et al., 2005). Examples of acknowledgment include: (a) a bulletin board of photographs with captions of children who follow expectations, (b) specific verbal or gestural feedback given to children following expectations, social privilege reinforcement (e.g. sitting next to a preferred peer, having a student transition last to extend their playtime), (c) charts with children's dictations to teachers about how they and their friends have followed expectations, (d) descriptions of children following expectations written on paper hands and hung outside of the room, and (e) sending positive behavior reports home to children's families (Hemmeter et al., 2007; Jollivette & Steed, 2010). Positive reinforcements are most effective when given immediately after appropriate behaviors occur so that children can connect their appropriate behaviors with the provided reinforcements. It is also important

for children to be consistently reinforced for appropriate behaviors until the behaviors become second nature. A teacher will know when this has occurred because children will independently display appropriate behaviors in the absence of positive reinforcements from the teacher (Jollivette & Steed, 2010).

Group contingencies can be used to improve whole class appropriate behavior. There are three group contingency classroom management strategies that teachers may use. Dependent group contingency is when the class earns a reward based on the behavior of a single or small group of children. Independent group contingency is when children in the class receive a reward if they meet a behavior or expectation standard. Interdependent group contingency is when every child in the class must meet a behavior or expectation standard for the class to receive the reward. A token economy is an example of a group contingency. First, the teacher identifies what challenging behaviors need to be addressed based on individual children or classroom's needs. Then behaviors for which the token economy will be used need to be decided, defined, and taught to the children. Verbal and visual reminders need to be present in the environment. Next, the physical tokens are defined. Tokens should be portable, easily accessible both in and out of the classroom, developmentally appropriate, and safe. Only the teacher can deliver the token reinforcement based on the occurrence of the identified appropriate behaviors. Then, reinforcements are defined and based on how many tokens the class needs to earn. The reinforcements should be varied, changed over time, and be preferred by the children. The number of tokens needed to access the reinforcements needs to be on a graduated scale. Finally, an exchange system is created so the children know when they can exchange the tokens for the reinforcements. The exchange system procedures can

reinforce the appropriate behaviors by incorporating a review of target behaviors and examples of how children displayed the behaviors with feedback for any errors. The exchange system can also incorporate math skills if the children count the tokens and identify how many tokens are needed for the various reinforcements. Social skills and communication skills are also incorporated as children negotiate with each other whether to exchange tokens for a small reinforcement or save tokens for a larger reinforcement (Jollivette & Steed, 2010). These and other strategies begin to create a sense of community within the program (Hemmeter et al., 2007).

In order to effectively use the Teaching Pyramid, early childhood professionals must learn about each child's unique attributes, abilities, and preferences to establish relationships with children (Fox et al., 2009; Hemmeter, Ostrosky, & Fox, 2006). The first tier of the pyramid, universal promotions, includes two levels (Fox et al., 2009), building positive relationships with children, families, and colleagues (Fox & Smith, 2007; Hemmeter et al., 2006) and designing supportive environments (Hemmeter et al., 2006). Building positive relationships with children increases an adult's influence on children's behavior. Supportive relationships help children develop a positive self-concept, confidence, and a sense of safety. Practices that support building relationships with children include: actively supporting children's engagement, embedding instruction within children's routines, planned and play activities, responding to children's conversations, promoting the communicative attempts of children with language delays and disabilities, and providing encouragement that promotes learning skills and development (Fox et al., 2009). Thoughtful, intentional, and planned efforts to form relationships with students reduce the occurrence of challenging behavior. It is a more

effective use of a teacher's time to build a strong relationship with a child than to implement more elaborate strategies to deal with challenging behavior that might have been prevented (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003).

Early childhood programs are usually families' first experiences with schools. This initial contact provides opportunities to develop meaningful relationships that build a foundation for later school success. The Teaching Pyramid is dependent on the participation of families. All families are provided with information on how to promote their child's social development (Fox et al., 2009). It is important to build relationships with families before problem behavior occurs (Hemmeter et al., 2006). Families are involved in the interventions at tier two and three of the pyramid model. Families can provide opportunities for the child to practice new skills in their home and community routines (Fox et al., 2009). When families receive training on social-emotional development in addition to the implementation of appropriate curriculum, the curriculum's effect on children is significantly greater than when the same curriculum is implemented without family involvement (Hemmeter et al., 2006).

An effective approach to addressing children's social emotional development and challenging behavior must include collaboration between children's caregivers. Just as it is important to develop relationships with families before challenging behavior occurs, it is also helpful to establish relationships with professionals as a preventative measure and to build a foundation for collaboration. Programs that have ongoing relationships with consultants or behavior specialists or that include behavior professionals on their staff can work together to promote children's social emotional skills in addition to providing intervention consultation (Fox et al., 2009; Hemmeter et al., 2006). Early childhood

professionals within childcare, preschool, early intervention, Head Start, and early childhood special education programs can implement the Teaching Pyramid. Programs need to provide staff implementing the pyramid model with support from a consultant or specialist when they are implementing strategies from tiers two and three of the pyramid (Fox et al., 2009; Hemmeter et al., 2006).

The second level of the first tier of the Teaching Pyramid is designing high quality supportive environments (Fox et al., 2009; Hemmeter et al., 2006). Children are less likely to engage in problem behavior when they know what to do, how to do it, and what is expected (Hemmeter et al., 2006). Supportive environments meet the standards of high quality early education when they: (a) implement a curriculum that envelops all areas of child development, (b) use developmentally, culturally appropriate, and effective teaching practices; (c) provide a safe physical environment that promotes active learning and appropriate behavior; (d) teach children rules and expectations; and (e) provide schedules and activities that maximize child engagement and learning (Fox et al., 2009). The pyramid model is to be used in natural classroom settings where the number of opportunities to learn and practice social skills can be optimized (Hemmeter et al., 2006). Environments that are engaging, predictable, and characterized by ongoing positive adult-child interactions are necessary for promoting children's social and emotional development and preventing children's challenging behavior (Hemmeter et al., 2006).

Children's challenging behavior is often the result of social, emotional, and communication skills deficits (Hemmeter et al., 2006). The second tier of the pyramid, social and emotional teaching strategies (Fox & Smith, 2007; Hemmeter et al., 2006), provides more systematic and focused instruction for those children who need more than

universal promotion strategies (Fox et al., 2009). The second tier focuses on skills such as identifying and expressing emotions (Fox et al., 2003; Hemmeter et al., 2006), self-regulation, problem solving (Fox et al., 2003; Hemmeter et al., 2006), initiating and maintaining interactions, cooperative responding, strategies for handling disappointment and anger (Fox et al., 2003; Hemmeter et al., 2006), and friendship skills (Fox et al., 2009; Fox et al., 2003). A systematic and thorough approach to teaching social skills and supporting emotional development requires a range of strategies to occur daily: teaching the concept, modeling, rehearsing, role-playing, prompting children in context, and providing feedback and acknowledgement when appropriate behavior occurs (Fox et al., 2009; Hemmeter et al., 2006). Teacher directed activities provide the opportunity to introduce, model, and role-play new skills. Free play activities provide opportunities for children to practice new skills and receive feedback from peers and adults (Hemmeter et al., 2006). Pairing pictures of emotional expressions with feeling words, reading children's literature featuring feelings words, playing "Feeling Face Bingo" (Fox & Smith, 2007, p. 50), and teachers labeling their own and children's feelings throughout the day are all examples of social and emotional teaching strategies. Children can be taught problem-solving steps: recognize that a problem exists, generate solutions, evaluate the consequences of solutions, act on a solution, and evaluate how effective the solution was. Children also need to learn friendship skills: sharing and turn taking, making suggestions in play, requesting and receiving help, giving compliments, and dealing effectively with teasing or bullying. Teaching social and emotional skills requires careful planning, individualization, providing multiple and varied opportunities for

practice, and providing attention to children when they are demonstrating these skills (Fox et al., 2003).

The Teaching Pyramid is most likely to support the child and reach desired outcomes when implemented immediately in response to children's challenging behaviors (Fox et al., 2009; Hemmeter et al., 2006). Professionals need a range of strategies. Universal promotion and teaching social emotional skills will be adequate for addressing most problem behaviors. However, a small number of children will require a more systematic approach to address their persistent challenging behavior (Hemmeter et al., 2006). When children are not responsive to the first and second tiers of the pyramid, the third tier, tertiary intervention (Fox et al., 2009), is used to develop interventions to respond to challenging behavior and to support the development of new skills (Hemmeter et al., 2006). Intensive individualized interventions are planned and implemented by a team that includes classroom staff, the child's family, and other professionals who may be supporting the teacher, child, or family (Fox et al., 2009; Fox & Smith, 2007; Hemmeter et al., 2006). The team completes a functional assessment to identify the factors related to the child's challenging behavior: identifying environmental factors that trigger and maintain behavior, determining the function of the behavior, and identifying more appropriate skills to replace the challenging behavior (Fox et al., 2009; Fox & Smith, 2007; Hemmeter et al., 2006). Using the information from the functional assessment, the team develops hypotheses about the functions of the child's challenging behavior. These hypotheses are used to develop a behavior support plan (Fox et al., 2009). The behavior support plan describes instructional strategies for teaching the child replacement skills and strategies for responding to the child in a way that supports the

development and use of the replacement skills. The team implements the plan, monitors changes in the behavior and monitors the development of social and emotional skills (Fox et al., 2009; Fox & Smith, 2007; Hemmeter et al., 2006).

Strategies implemented at each level of the pyramid provide the foundation for strategies to be implemented at the next level. The Teaching Pyramid is an all-inclusive model designed to support children's social-emotional development and reduce the intensity or likelihood of challenging behavior (Fox et al., 2009; Hemmeter et al., 2006). Children who know how to solve social problems, have well developed social and communication skills, understand the expectations of their environments, and can regulate their emotions are less likely to engage in problem behavior (Hemmeter et al., 2006). Implementing strategies from the Teaching Pyramid can solve many of the social and behavior problems occurring within early childhood environments. When teachers implement the universal promotion and secondary prevention strategies of the pyramid, only a small percentage of children are likely to need tertiary level strategies. The pyramid model is an effective and efficient use of teachers' time and resources. It addresses the needs of all children and has positive effects on children's social and emotional development and challenging behavior (Fox et al., 2009; Hemmeter et al., 2006).

Functional Behavioral Assessment. "Conducting FBAs and implementing proactive, positive interventions might be especially important for young children to prevent an increase in the frequency or intensity of challenging behavior" (Neilsen & McEvoy, 2004, p. 127). Functional Behavioral Assessment (FBA) requires gathering information using multiple methods, such as interviews, rating scales, and observations.

The team completing the FBA determines what the challenging behavior looks like, where and when it occurs, what antecedents predict the behavior, and what responses maintain or reinforce the behavior. Finally, the team designs comprehensive, individualized interventions that specifically address the function of the behavior. Conducting an FBA improves the effectiveness and efficiency of an intervention to address challenging behavior. Challenging behavior can occur due to the presence or absence of specific triggers, events, or environments. If a team identifies these triggers, events, or environments, then they can design strategies to change the antecedents.

The FBA also provides the team with information about the consequences of challenging behavior. A child might engage in challenging behavior to obtain or avoid attention, objects, or tasks. The cause of challenging behavior might be escape or avoidance. When a child postpones, reduces, or terminates unpleasant or non-preferred tasks or activities, the function of behavior is considered escape or avoidance. For a small number of children, challenging behavior is maintained by automatic reinforcements. If this is the case, children engage in challenging behavior to obtain either internal or external sensory stimulation. Automatic reinforced behaviors are maintained by events that are difficult to observe and manipulate. Automatic reinforcement is the assumed function when the FBA results are unclear or when the behavior persists in the absence of attention and escape (Neilsen & McEvoy, 2004).

A single type of challenging behavior can be maintained by more than one function and multiple types of challenging behavior might serve one function. Also, multiple interventions may be required to deal with multiple behaviors and multiple functions. Due to this, FBAs need to be performed using multiple sources and methods

and in multiple contexts. Data collection procedures are divided into three parts: (a) indirect, (b) direct observation or descriptive analysis, and (c) experimental functional analysis. Interviews, questionnaires, checklists, and rating scales are examples of indirect methods. The goals of an interview are to begin to gather information to define the behavior, identify the situations in which the behavior does and does not occur, identify antecedents and consequences of the behavior, document previous interventions used, and suggest replacement behavior and possible reinforcements. Rating scales can provide a quick source of information to figure out the potential function of the behavior (Neilsen & McEvoy, 2004).

Direct methods or descriptive methods are observations done to describe the behavior and the environment. There are many different ways to collect data during an observation. Information from indirect and direct methods is used to form hypotheses about the single or dual functions of challenging behaviors. When data from indirect and direct methods conflict or when there is not enough data, functional analysis can be used. During a functional analysis, the team purposely plans for situations to occur that strongly relate to the behavior and then observe the child closely. The team presents the variable that is predicted to produce or maintain the challenging behavior in one instance and then in the other instance the variable is absent. All other variables remain consistent in both instances. It is recommended to use indirect and direct methods and then, if needed, follow up with experimental analysis to confirm the function of the challenging behavior (Doggett, Edwards, Moore, Tingstrom, & Wilczynski, 2001; Neilsen & McEvoy, 2004). Researchers are continuing to determine the most efficient way for early childhood professionals to conduct FBAs. “The goal should be to improve assessment

procedures for classrooms and enhance the capacity of educators to implement FBA procedures and interventions” (Neilsen & McEvoy, 2004, p. 127).

Researcher’s current situation. During the second semester of the 2010-2011 school year, all early childhood staff employed with the Howard-Winneshiek School District, as well as the director and three staff members from the childcare program that is in the Early Childhood Development Center, received professional development about PBIS. An early childhood consultant from the Area Education Agency (AEA) presented modules from the Center on the Social and Emotional Foundations for Early Learning (CSEFEL) website. During trainings, those participating listened to her presentations, received written support materials, discussed and reflected individually and in small groups, completed checklists, and analyzed case studies. Topics covered included: building relationships and creating supportive environments, social emotional teaching strategies, and individualized intensive interventions based on determining the meaning of challenging behavior and developing a behavior support plan. I understood the information, but felt frustrated and overwhelmed because it was provided mid-year when I was already in the midst of dealing with multiple students displaying challenging behavior, struggling with a large class size, and adjusting to the transition of previously teaching a self-contained classroom to teaching a full-inclusion classroom. We were not given adequate time to process and apply the information to our classrooms or time to prepare materials to aid in implementing the strategies. Due to scheduling conflicts, the last module on creating behavior support plans was presented after the school year ended.

Early childhood staff members received an additional training before the 2011-2012 school year started to make up for training time that was missed due to the

scheduling conflicts the previous year. The goals of the additional training were to review presentations previously given, answer questions and address concerns, and to determine if all required materials had been prepared: feelings chart, problem solving cards, social stories, copies of observation cards and behavior incident reports, acknowledgement system, and rules posted with pictures. Even with this day of training at the beginning of the year, I continued to feel overwhelmed. The last activity we did at the training was to work as small groups to list how we were going to apply what we had learned to our classrooms, and then we shared as a large group. I knew what to do, I knew it is research based and effective, and I was motivated and excited to implement PBIS; however I was left with when to do it, what order to do it in, as well as wanting to keep my colleagues excited and motivated. I believe that in order for PBIS to be most effective, it needs to be in every classroom and all staff needs to implement the strategies at all levels.

Rationale

A review of the literature will allow me to further develop my knowledge of the use of PBIS with young children. Such a review will also allow me to identify how other teachers are addressing the challenges of implementing PBIS strategies in their classrooms and to identify what methods and processes of implementation are realistic and effective. This review will also allow me to learn how FBA is being used at the early childhood level, what training is being provided about FBA, and who is completing the FBA.

Purpose of Review Results

The review will present studies showing how effective implementation of PBIS strategies affect children's challenging behavior. A review of the research will provide

information about how to evaluate classroom staff's abilities and effectiveness at implementing PBIS. Finally, the review will describe the role of FBA in PBIS and how effectively completing FBAs effects children's challenging behavior.

Importance of Review

Preschool teachers reported children's challenging behaviors were their greatest concern (Alkon et al., 2003). Kaiser et al. (2002) concluded as many as one fourth to one third of 3-year-old children in Head Start were perceived by their teachers as having high levels of problem behavior. Challenging behaviors are expected to decrease during the preschool years as other developmental skills increase. However, it is estimated that approximately 10% of children continue to display these and other challenging behaviors during the preschool years (Kuperschmidt et al., 2000). Preschool children exposed to multiple risk factors that have impacted their social development have a greater risk for the development of behavior problems (Conroy & Brown, 2004; The Center on the Social and Emotional Foundation for Early Learning, 2006). Qi and Kaiser (2003) reported 30% of children from low socioeconomic status (SES) backgrounds as having behavior problems compared to 3%-6% of children in the general population.

Punitive consequences are often used to deal with these problem behaviors. Gilliam (2005) reported that prekindergarten children were expelled at a rate that was three times that of children in K-12 grades. Early childhood teachers and staffs and childcare providers are provided limited training and do not have a great amount of experience in dealing with children's challenging behaviors. Often, young children who demonstrate serious and persistent challenging behaviors do not receive appropriate research-based interventions that are needed to decrease the intensity and frequency of

challenging behavior. These children are usually dismissed from early childcare programs due to their challenging behavior (Conroy & Brown, 2004).

Identification and intervention policies and practices mandated by the 1997 Individuals with Disabilities Education Act (IDEA) have resulted in a failure to identify and intervene with young children who are at risk for developing emotional or behavioral disorders (E/BD). Effectiveness of later services are decreased for young children who develop well established patterns of problem behavior, but are not identified with a disability and are not provided early intervention services. Effective early identification and intervention strategies for addressing severe challenging behavior exist. However, many young children at risk for developing E/BD have not received appropriate services (Conroy & Brown, 2004).

IDEA eligibility criteria and No Child Left Behind (NCLB) have impeded early intervention efforts with young children who have problem behaviors. The IDEA definition of emotional disturbance (ED), difficulty with IDEA eligibility criteria, and lack of existing and related policies and services working collaboratively have prevented early identification and appropriate services being provided to young children with challenging behavior. In order for children to be identified and to be eligible for services under the ED category, children must have displayed challenging behavior “over a long period of time and to a marked degree” (Conroy & Brown, 2004, p. 226). Children must also have significant delays in academic achievement. This criterion is not appropriate for identifying young children who engage in challenging behaviors that may not have well documented and well established behavior patterns (Conroy & Brown, 2004).

Most young children also do not have well documented academic delays. They are more likely to have documented delays in developmental areas such as social and emotional skills, language and communication, and cognition. The ED category also restricts eligibility to children who have received medical diagnoses (e. g. Oppositional Defiant Disorder, Attention Deficit Disorder). This criterion prevents children from receiving comprehensive developmental and educational services and is a barrier to finding and serving young children who demonstrate persistent challenging behavior. Developmental delay in social behavior (DD) is another IDEA term that may be used to identify young children who demonstrate serious challenging behaviors. Typically children are eligible for services under the DD category if they demonstrate significant delays in two or more developmental domains. Due to the limiting language of the criteria, identification of E/BD in young children has been problematic and young children who demonstrate challenging behaviors have not been eligible for services under the DD category unless they have a developmental delay in another area in addition to their behavioral difficulties (Conroy & Brown, 2004).

Many early childhood professionals have hesitated to label young children for early interventions services, particularly if children have E/BD. These professionals have failed to recognize that eligibility determination is essential to obtaining services. The emphasis of NCLB has been on improving young children's early cognitive skills and not prevention and intervention for emerging challenging behaviors and the development of social and emotional skills (Conroy & Brown, 2004). "Young children with emerging behavior problems will be the ones 'left behind' because of our failure to identify them at an early age and provide them with the effective behavioral and developmental

interventions needed to address their difficulties explicitly” (Conroy & Brown, 2004, p. 227).

Research has proven the effectiveness that increasing teacher skills, supporting teachers managing problem behavior, and teaching age-appropriate social and language skills to children have on decreasing challenging behavior. Unfortunately, implementing a program wide system to address challenging behavior is complicated due to variability in the size, complexity, and quality of programs. Young children are served in multiple environments including Head Start, center-based and home-based childcare, and public and private schools. These programs vary in the experience and training of staff (Conroy & Brown, 2004; Fox et al., 2009, Hemmeter et al., 2007), adult to child ratios (Fox et al., 2009, Hemmeter et al., 2007), and access to resources (Conroy & Brown, 2004; Fox et al., 2009, Hemmeter et al., 2007). Due to these variations, some teachers may need training on basic child development issues, while others may be ready for training on individualized interventions (Fox et al., 2009, Hemmeter et al., 2007). Due to philosophical and training differences, there are a limited number of early childhood services available that are able to effectively address young children’s challenging behavior. Interventions that are research based and have been identified as effective for young children with challenging behaviors either do not begin until kindergarten, or are not widely used in most early childhood programs. Programs also struggle to replace established reactive and punitive responses to challenging behavior with research proven effective strategies (Muscott et al., 2009). In addition, many behavior programs have been implemented in clinical settings or have focused on parents as the interventionists,

which may have prevented widespread access to appropriate services for many children (Conroy & Brown, 2004).

An additional issue is programs' access to qualified related service personnel and consultation services (Fox et al., 2009; Frey et al., 2010; Hemmeter et al., 2007, Muscott et al., 2009). Early childhood programs may struggle with high staff turnover, related to burnout due to limited time, resources, and support staff. Staff shortages and new staff members affect consistency of implementation. Head Start and public school preschool programs are more likely to have additional available staff where childcare programs may have only staff available to meet ratios. The extent to which strategies from the Teaching Pyramid can be implemented will vary based on the number of adults who are available in the classroom and the support they receive from service personnel and consultation (Fox et al., 2009).

In building positive relationships with families, different perspectives may emerge about what behaviors are valued and encouraged. There is a possibility that families' perspectives, beliefs, and values about child guidance and discipline may vary from early childhood professionals' recommendation. There are also philosophical differences about appropriate intervention strategies between and among Early Childhood (EC) professionals and E/BD professionals. Lack of communication, coordination, and collaboration among EC, Early Childhood Special Education (ECSE), and E/BD professionals prevented early identification and effective interventions for young children who were at risk for or had E/BD. Traditionally, researchers and practitioners in E/BD focused their efforts on school-aged children and EC and ECSE researchers and practitioners concentrated on children below the age of six (Conroy & Brown, 2004).

E/BD professional intervention strategies are primarily based on behavioral principles that may conflict with the more constructivist principles held by EC and ECSE professionals. These differences probably resulted from differences in training programs. EC and ECSE teachers are unlikely to have received training in FBA, which is commonly used by E/BD professionals (Conroy & Brown, 2004). The cognitive abilities of children and developmentally appropriate practices need to be considered when implementing strategies (Fox et al., 2009, Hemmeter et al., 2007). Early childhood settings serve children with and without disabilities. There are likely to be children who are functioning at a developmental level of an infant or toddler. Strategies must be designed based on an understanding of each child's behavior across a variety of settings (Fox et al., 2009).

Most early childhood education centers do not have systematic approaches for communicating, distributing resources, or collecting and analyzing behavioral data (Frey et al., 2010; Hemmeter et al., 2006; Muscott et al., 2009). In School-wide Positive Behavior Support (SWPBS), the primary measure of effectiveness is office discipline referrals. Early childhood settings usually do not use office discipline referrals (Hemmeter et al., 2007, Muscott et al., 2009). To serve the same purpose as office discipline referrals, but be appropriate to early childhood practices, some early childhood programs have adopted a Behavior Incident Report (BIR) to collect data. BIRs can be used to document the reduction of behavior incidents over time and can be used to develop strategies or plans to prevent or reduce the occurrence of challenging behavior (Hemmeter et al., 2007). When the method of data collection is systematic and consistent, it can be used to identify settings, activities, and times when problem behavior is most likely to occur, and can also be used to document the reduction of behavior incidents over

time (Krasch & Carter, 2009; Muscott et al., 2009, Stormont et al., 2005). Regular data collection will help programs decide whether practices are being implemented correctly and fully; children, families, and staff are benefiting from the program; and that benefits are worth the costs. Data on both implementation and child outcomes are required in order to continuously improve the program and to interpret challenging behavior data (Mincic et al., 2009).

Research Questions

To analyze the research in regard to challenging behavior in early childhood education, this paper was organized around two research questions:

1. How can early childhood classroom staff effectively yet efficiently implement and maintain Positive Behavior Instructional Support (PBIS)?
2. How can early childhood teachers effectively and efficiently use Functional Behavior Assessment (FBA) to address challenging behaviors?

Terminology

The reader may understand different meanings for terms than I am using in this review. For the purposes of this paper, the following terms are defined:

Academic Engagement: “orienting toward the teacher or a peer; engaging physically or verbally with assigned materials, objects, or tasks; contributing to the group; or following directions” (Carter & VanNorman, 2010, p. 282).

Challenging Behavior: any repeated pattern of behavior that interferes with learning or engagement in pro-social interactions and is nonresponsive to the use of developmentally appropriate guidance procedures or procedures suited for a given child’s age and developmental level (CSEFEL, 2006). This includes “negative behavior directed

to peers or adults, stereotypy, disruptive behavior, destructive behavior, noncompliance, tantrums, aggression, and self-abuse” (Chandler, Dahlquist, & Repp, 1999, p. 104).

Functional Behavior Assessment (FBA): “the process of identifying the events in the environment that consistently precede (antecedents) and follow (reinforcers) challenging behavior” (Neilsen & McEvoy, 2004, p. 116) that contributes to improved services and interventions (Scott & Kamps, 2007).

Graphical Feedback: a type of performance feedback coaches provide to teachers after training; consists of graphical plus verbal feedback about individuals’ past performance to influence future performance (Casey & McWilliam, 2008).

Interdependent group contingencies: reinforcement to the group based upon the entire class meeting a specified criterion (Murphy, Theodore, Aloiso, Alric-Edwards, & Hughes, 2007).

Positive Behavior Instructional Support (PBIS): a systematic model for reducing challenging behaviors and increasing adaptive, pro-social behaviors. This model includes three levels of prevention and intervention, including functional assessment-based interventions in order to address the needs of all children within a school or program setting (Benedict, Horner, & Squires, 2007; CSEFEL, 2006; Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Powel, Dunlap, & Fox, 2006).

Praise: behavior specific verbal feedback (Stormont, Smith, & Lewis, 2007).

Precorrection: prompting for expected behaviors before challenging behavior occurs using specific prompts for desired behavior in a specific setting (Carter & VanNorman, 2010; Stormont et al., 2007).

Preschool-based Consultation: when a consultant works with a teacher to strengthen the use of environmental arrangements and teaching strategies that are associated with children's improved social and emotional functioning (Dougherty, cited in Benedict et al., 2007).

Preschool-wide Evaluation Tool (Pre-SET): assessment modified from the Schoolwide Evaluation Tool (SET). Categories include: Expectations Defined, Behavioral Expectations Taught, Monitoring and Decision-Making, Organized and Predictable Environment, Additional Supports, and Family Involvement (Benedict et al., 2007).

Problem Behaviors: "any occurrence when a child turns away from an activity, teacher, or peer (under own volition); disrupts others (i.e., plays with others' hair, touches peers or adults); engages in any verbal or motor activity not directly related to the task at hand; mouths objects; or leaves a designated area" (Duda et al., 2004, p. 148).

Program-wide Positive Behavior Support (PWPBS): Extension of School-wide Positive Behavior Support (SWPBS) to the preschool level. Based on the same fundamental principles of SWPBS: promoting evidence-based practices, supporting change at the systems level, and building local capacity to sustain effective practices over time. Re-named because most preschool classrooms are not organized within a school building (Hemmeter et al., 2007; Stormont et al., 2005).

Secondary Prevention: the second tier of the Teaching Pyramid. Secondary prevention involves providing social skills and emotional skills instruction to children at risk of social and emotional delays (Fox et al., 2009).

The Teaching Pyramid: “A model for supporting social competence and preventing challenging behavior in young children” (Fox et al., 2003, p. 49).

Tertiary Interventions: The third level of the Teaching Pyramid used to address persistent challenging behaviors that are not responsive to interventions at the universal promotion and secondary prevention levels. At the tertiary level of the pyramid model, an intensive and individualized plan is developed and implemented to resolve problem behavior and support the development of new skills (Fox et al., 2009).

Universal Promotion: the first tier of the Teaching Pyramid. Universal promotion involves two levels of practices that are essential to promoting the social development of all young children. Part one is developing a nurturing and responsive relationship with the child, developing partnerships with families, and developing collaborative relationships with team members. Part two is designing high quality supportive environments (Fox et al., 2009).

CHAPTER II

Methodology

Procedures to Review Literature

This chapter explains the procedures I used to locate and select sources for review. It will also define the criteria I used for including and analyzing the sources. I began my review by seeking out reviews, primary studies, and articles that provided background information on young children and challenging behavior, Positive Behavior Instructional Support (PBIS), and Functional Behavior Assessment (FBA). Then I narrowed my search to looking for reviews, primary studies, and articles that provided insight and guidance on the challenges of implementing PBIS. This led me to search for reviews and primary studies on the implementation and evaluation of teachers implementing PBIS in early childhood classrooms. Next, I looked for reviews and primary studies in which teachers used FBA to address young children exhibiting challenging behavior. These studies were limited so I expanded my search to primary studies where the researchers conducted the FBA and coached or worked collaboratively with teachers throughout the process.

Locations of sources. I conducted searches using the University of Northern Iowa Rod Library's Panther Prowler. I searched within the educational databases Education Full Text (Wilson), ERIC (EBSCO), ERIC (U.S. Dept. of Education), PsychINFO (EBSCO), Education Index Retrospective (Wilson), Mental Measurements Yearbook (EBSCO), and PsycARTICLES (APA) using the following keywords: *challenging behavior and young children and positive behavior supports and young children.*

Selection of sources. Sources were selected based on relevancy to the current topic and consisted of primary studies, reviews of the literature, reports, and articles. Initially, I chose to look at very current research, 2010-2011. I then focused on referred journals and articles from the very current research. These articles referred to prior research, which helped to broaden my resources and provide a background for challenging behavior in early childhood education.

Criteria to include literature. Included articles reported results of experimental research studies investigating use of training and consultation methods to aid teachers in implementing PBIS strategies and evaluated how teachers' PBIS implementation fidelity affected children's challenging behaviors. I focused on articles where FBA strategies were implemented by early childhood teaching staff or families with young children. Research studies used included at least one participant 6 years or younger or staff or programs that served children under 6 years of age.

Procedures to analyze sources. For this review, an analysis of the feasibility and effectiveness of implementing PBIS and FBA by classroom staff was conducted. To conduct the analysis, I categorizing resources by topic: challenging behavior, PBIS, and FBA. I further categorized PBIS resources into the subtopics: consultation, group contingencies and motivators, pre-correction and praise, and background information. I also further categorized challenging behavior resources into statistics and background information, group data collection, and classroom management. Finally, I categorized FBA resources based on whether the researchers or the school staff completed the FBA during the study and by the consulting method.

CHAPTER III

Literature Review

I want to correctly implement effective PBIS strategies in my classroom and I want the other teachers and professionals I work with to commit to starting the process of PWPBS. This review will address the following questions:

1. How can early childhood classroom staff effectively yet efficiently implement and maintain Positive Behavior Instructional Support (PBIS)?
2. How can early childhood teachers effectively and efficiently use Functional Behavior Assessment (FBA) to address challenging behaviors?

Effectively Implementing PBIS

Erbas (2010) studied a consultation model and a consultation plus feedback model with three parents. Three participants were selected based on three criteria: having a child with a developmental disability exhibiting problem behavior, no prior experience with PBIS, and willingness to participate in the study. Prior to the start of treatment, the mothers were given a two day workshop using PBIS training modules from the CSEFEL website. The consultation-only treatment consisted of four, 15 to 30 minute meetings with each of the three mothers. During the first meeting, the researcher conducted a functional assessment interview in order to define the child's problem behavior. During the second meeting, the mother was asked to observe her child at home using The Home Observation Card. In the third meeting, the mothers generated problem behavior statements. During the fourth session, potential consequences and antecedent procedures for problem behavior were identified. Each mother watched videotapes of her child's behaviors, identified target behaviors, and determined antecedents and consequences of

problem behaviors. The mothers' hypotheses were compared to the researchers' hypotheses until agreement between researcher-developed and mother-developed hypotheses was reached. The mothers and researchers then created the individualized behavior support plan.

The consultation plus feedback model (Erbas, 2010) consisted of providing feedback focused on praise for correct implementation, corrective feedback on performance, and addressing questions and comments before the start of the next session. Each session was 10-15 minutes long. The researcher would play the video and when the child showed an incorrect behavior, the researcher stopped the video and asked the mother how to correct the behavior. When the mother gave a correct response, the session was continued; when the mother gave an incorrect or no response, the researcher explained the correct response. The data collection sheet on the mother's behaviors included: (a) the type of procedure (antecedent or consequence), (b) an operational definition of each component of the intervention, (c) observer leveled ratings (implemented as written, not implemented as written, no opportunity to observe) of the mother's implementation of each component, and (d) space for the observer to record comments or examples. Percentage of correct implementation was calculated by dividing the number of behaviors mothers implemented correctly by the total number of items on the data sheet. During the consultation alone phase, the percentage of correct implementation of antecedent and consequence procedures were low for all parents. Mother 1's mean percentage of correct implementation of antecedent procedures was 15.3% with a range of 12% to 20%, and Mother 3's mean was 5%, with a range of 0% to 10%. Mother 2's mean percentage of correct implementation of consequence procedures

was 22.4% (range = 15% to 30%). During the consultation plus feedback model the percentage of the correct responses to challenging behavior increased dramatically for all parents. Mother 1's mean percentage of correct implementation was 73.3% for consequence procedures with a range of 45% to 90%, and Mother 3's mean percentage was 67.5% with a range of 35% to 90%. Mother 2's mean percentage of correct implementation was 77% for antecedent procedures with a range of 40% to 100% (Erbaş, 2010).

Data on child target behaviors were recorded using a 15 second partial interval recording system and were reported as percentage of intervals in which problem behaviors occurred. Problem behaviors were disruptive or destructive behaviors such as throwing objects and kicking or hitting peers. Lower levels of problem behavior occurred in the consultation plus feedback model than in the consultation only model. During the consultation only model Child 1, Child 2, and Child 3 had mean percentages of 18.78, 17.9, and 28.18, respectively. During the consultation plus feedback model, Child 1, Child 2, and Child 3's mean percentages dropped to 17.1, 15.81, and 23.2, respectively. During the maintenance phase of the study, which occurred two, four, and six months after treatment, the mothers maintained high percentages of correct implementation and the children's levels of problem behaviors remained low. Child 1's mean percentage was 19.5 with a range of 0% to 24.3%. Child 2's challenging behavior was noticeably lower during maintenance than during the intervention (mean = 5.5%, range = 0% to 9.5%). Child 3's behaviors remained lower during maintenance than during the intervention (Erbaş, 2010).

In-classroom consultation is one method used to train teachers to use PBIS strategies in their classrooms. Duda et al. (2004) presented two case studies involving preschool aged children who were referred by their classroom teacher for problem behavior. Child 1 cried and whined excessively when limits were set, when asked to share, or when her clothes were dirty. Child 2 was aggressive when she did not get her way and when children avoided interacting with her. She had difficulty remaining on-task, did not respond to redirection, mouthed objects, and wrestled other children to the ground. The PBIS process used in this study is research based. The process included team development, functional assessment, support plan development, and intervention. Two PBIS consultants facilitated all stages.

A team was formed consisting of the children's parents, the preschool teacher, the classroom paraprofessional, the preschool director, the assistant preschool director, and the PBIS consultants. The purposes of team meetings were to introduce the PBIS approach, describe the components of the process, develop goals for the target children, and agree on roles to be assumed by each team member. Two, 1-hour formal team meetings were conducted before the interventions and on-going team consultations were held on an as-needed basis. On-going consultation included feedback, suggestions from the consultants, questions and concerns from the classroom staff, and exchanges of information among the team members. The PBIS consultants completed the functional assessments and the team met to determine a hypothesis based on the functional assessments. PBIS interventions were determined for each student based on the team's hypothesis. The classroom staff chose to implement the PBIS interventions during two whole group activities where the children were expected to stay seated or move within

the carpet area. Circle time consisted of reading a book, singing a song, or other language activity, and planning time consisted of a movement activity that transitioned into choice time. Classroom staff was coached for five to ten minutes before each implementation of targeted strategies. During this time, the PBIS consultant reviewed targeted strategies, modeled the use of materials or teaching technique, and asked the teacher if she had questions or needed clarification in regard to implementation. Immediately following the session, the PBIS consultant commented on strategy use and the children's behaviors during the group activity and provided reminders about strategies that had not been implemented (Duda et al., 2004).

Multiple strategies were determined for Child 1 and Child 2 based on the functional assessment. Two strategies implemented for both Child 1 and Child 2 were establishing a schedule and seating the children apart each other. For both children, these two strategies occurred 86% of the time at opening circle and 100% of the time at planning during the intervention period. Each child also had individualized seating positions. For Child 1, the seating position was implemented 86% of the time during opening circle time and 100% of the time during planning time. For Child 2, the seating position occurred 100% of the time during morning circle time and 57% of the time during planning. A transition strategy was also chosen for both children, which was to select those children first, second, or third to move to the next activity. In addition to the previous strategy, Child 1 transitioned with a peer who could act as a model. Selection of transitions and transitioning with a peer occurred 100% of the time for Child 1 during both large group times. For Child 2 selection of transitions was implemented 100% of the time during opening and 86% of the time during planning. Specific praise was another

strategy implemented with both children. Specific praise use occurred 99% of the time for Child 1 during both large group activities. For Child 2, specific praise use occurred 98% of the time for opening circle and 99% of the time for planning. The final strategy was to provide opportunities to answer specific questions, which was implemented 100% of the time for both children during both activities (Duda et al., 2004).

Both Child 1 and Child 2 increased engagement behaviors and decreased problem behaviors during the intervention period. Child 1 had greater and more consistent levels of engagement behavior and lesser and more consistent levels of problem behaviors than Child 2. Duda et al. (2004) determined that PBIS consultation of classroom teachers who were implementing PBIS interventions led to a decrease in problem behavior and increased engagement for both children involved.

Stormont et al. (2007) choose three teachers based on their inability to effectively use specific praise and pre-correction strategies as part of implementing PWPBS even after being provided professional development in-services on the importance of using these features to support appropriate behavior. Teacher 1 had been working for Head Start for two years and had an undergraduate degree in human development. Teacher 2 was a teaching assistant who had been working for Head Start one and one-half years, with three and one-half years experience as a teaching assistant at the high school level. Teacher 3 had an undergraduate degree in education and had been working for Head Start for six months, with 19 total years of teaching experience. All three teachers had a racially diverse group of children between the ages of 3 and 5. Teacher 1 had seven students in her classroom and Teachers 2 and 3 each had nine students in their

classrooms. Teacher 3 had a student with an identified language disability and one student who needed English as a Second Language (ESL) services.

A team of Head Start directors and staff from three Head Start centers attended a two-day workshop on implementing PWPBS. Each center then received two, 2-hour in-services on PWPBS. The study took place approximately two months after the individual center in-services. A teacher-directed small group setting was chosen for this study because the teachers led or facilitated an activity with the same small group of children during the same time every day. Two observers were present for each session, one to observe teacher behavior and one to observe student behavior. The purpose of the intervention was to instruct teachers to use pre-corrective statements to communicate expectations to students before beginning the lesson and to increase the expression of specific praise statements when students were meeting behavior expectations. Specific problem behaviors were: yelling (when not part of activity), spitting, hitting, teasing, whining, telling on another child, taking materials from another child, interrupting lessons by blurting out, chewing on materials, sticking a tongue out at someone, pretending toys were guns, taking a turn prematurely, waiting more than five seconds to comply with a teacher directive, turning his or her chair away from the small group table for more than five seconds, leaving the area without permission, and leaving the area with permission but then wandering to another area for more than five seconds (Stormont et al., 2007).

Each teacher was provided an individualized 30-minute training on praise and pre-correction using examples collected during baseline data collection. During training, teachers practiced precorrective statements and received feedback until they successfully

generated two precorrective statements. During the intervention, feedback was provided at the end of each session in regard to the use of precorrective statements and praise.

During baseline data collection, Teacher 1 had low rates of specific praise (range 0 to .3 rate per minute) and reprimands (range .1 to .4 rate per minute) and an increasing trend in the rate of problem behavior (range .6 to 1.8 rate per minute). Following the intervention period, use of specific praise increased (range .2 to .5 rate per minute), the rate of problem behavior decreased (range .2 to .7 rate per minute), and the rate of reprimands remained low (range 0 to .2 rate per minute). Teacher 1 did not use any precorrective statements during baseline data collection. During the intervention she used precorrective statements 100% of the time. Teacher 2 had variable rates of problem behavior (range .6 to 2 rate per minute), specific praise was low (range 0 to .1 rate per minute), and reprimands occurred with a range of 0 to .4 rate per minute during baseline data collection. Following the interventions, there was a decrease in variability and occurrence of problem behavior (range .6 to .4), the use of specific praise increased (range .1 to .7 rate of behavior per minute), and there was no significant change in the use of reprimands (range .1 to .3). During baseline data collection, Teacher 2 used precorrective statements an average of 13% of the time, with a range of 0% to 100%. During the intervention she used precorrective statements 100% of the time. Teacher 3 had low rates of both specific praise use (range 0 to .1 rate per minute) and use of reprimands (range 0-.1 rate per minute) during baseline data collection. The occurrence of problem behavior (range .3 to 1 rate per minute) was lower than Teacher 1 and Teacher 2 during baseline data collection. During the intervention, student problem behavior decreased (range .1 to .2 rate per minute), use of specific praise increased (range .2 to .4 rate per minute), and use

of reprimands remained at a low rate of use (range 0 to .1 rate per minute). There was no significant change in use of precorrective statements for Teacher 2. During baseline data collection, she used precorrective statements an average of 78% of the time (range 0% to 100%) and during the intervention she used precorrective statements an average of 75% (range of 0% to 100%) of the time. Stormont et al. (2007) determined teachers' use of precorrective statements and specific praise lowered the behavior problems in the setting being observed.

Benedict et al. (2007) investigated the effects that consultation had on the PBIS implementation process, as well as on the occurrence of problem behavior. Fifteen preschool classrooms participated in a pre-assessment to evaluate the presence of critical features of PBIS. The four classrooms that scored lowest on the pre-assessment and implemented less than 60% of the critical features of PWPBS on the pre-assessment were selected to participate in the PBIS consultation process. Two of the classrooms were full-day Head Start classrooms, one classroom was a half-day Head Start classroom, and one was a community preschool. The classrooms served children from three to six years old. The PBIS consultant met with the four lead teachers and other staff members during an initial meeting to provide information about PBIS, discuss the classroom's pre-assessment results, and to form an action plan to guide future consultation sessions. The PBIS action plan addressed classroom materials (classroom rules poster, classroom matrix, and classroom schedule), transitions (use of warnings, signals, and precorrection), and classroom routines (use of acknowledgement for following classroom rules, high ratio of positive statements to negative statements, and use of specific verbal praise). Later consultation sessions involved only the PBIS consultant and the lead teachers and

occurred during regular classroom activities. The consultant observed classroom activities, modeled strategies, and provided positive and constructive comments, as well as written feedback directly related to the classroom's goals identified on the action plan. Consultation was provided between classroom visits through email and phone calls. Each classroom received at least seven consultation sessions, each averaging just under an hour, but ranging from 10-90 minutes. The presence of targeted strategies addressed in the action plan increased from pre- to post- consultation in each of the four classrooms (Poppy classroom 39.63% to 52.22%, Tulip classroom 14.26% to 50%, Violet classroom 35.37% to 64.44%, and Daisy classroom 38.52% to 63.33%). The data showed that following PBIS consultation, implementation of PBIS strategies increased for all four classroom teachers, but the data did not show that challenging behavior decreased. Baseline problem behavior rates were low for all four classrooms, with an overall mean of 2.76%. No significant changes in level, trend, or variability of children's problem behavior were evident after visual analysis of data between baseline and post-intervention data collection. No functional relationship was established between an increase in classroom teachers' implementation of PBIS strategies and children's challenging behaviors. The researchers discussed that this may have been due to several factors: the fact that the targeted strategies did not affect the 20% of children who are likely to require additional supports beyond universal promotion, the consultation process occurred the last six weeks of school, and that even more implementation fidelity is needed in order to decrease challenging behavior.

Carter and VanNorman (2010) built upon the Benedict et al. (2007) study. However, their dependent variable differed. The Carter and VanNorman study focused on

the academic engagement of children, not problem behavior. The teachers participating in the study answered eight questions about challenging behavior before and after the experimental intervention took place. Six classroom teachers were assessed using the Preschool-wide Evaluation Tool (Pre-SET) and provided an overview presentation on positive behavior support. Four teachers were chosen for the study based on administrator nomination, teacher interest, and assessment scores of essential features of PBIS being implemented. The four teachers chosen scored less than 25% on pre-assessment. The other two classroom teachers were provided with information in regard to PBIS implementation support, but did not participate in classroom observations or consulting sessions.

During an initial consultation session, the four teachers were provided with a binder of training materials that focused on creating a consistent and predictable environment (posting three to five positively stated classroom rules with a combination of words and pictures, posting a classroom schedule that included pictures at students' eye levels, having a classroom matrix that defined behavioral expectations across classroom routines), implementing effective and efficient transitions (using a transition signal in addition to a verbal signal, providing a warning prior to transitions, practicing precorrection), and acknowledging appropriate behavior (using a system for acknowledgement that was consistent across staff, using a ratio of at least four positive statements to every negative statement, using specific verbal praise following demonstration of appropriate behavior). The consultant and teachers worked together to prioritize the skills the teachers wanted to address based on data presented by the consultant and on what teachers experienced as most relevant for their classrooms. A

follow-up consultation session lasting about 30 minutes was provided two weeks after the initial meeting. During follow-up, the consultant shared observation data in graph form, reviewed material from the information binder, provided modeling of target skills, and provided written feedback. The graph compared baseline data and observational data from the past two weeks. Written feedback was organized using a standardized consultation notes sheet. First, the consultant filled in a column for each skill documenting strengths. Then, the consultant and teachers completed the rest of the document collaboratively, noting what the teachers had done and what they had planned to do for each skill, what was working, and suggestions for changes. The action plan was updated to include no more than three target skills and specified what and when the teacher and consultant would do (Carter & VanNorman, 2010).

Similar to the Benedict et al. (2007) study, there was an increase in the level of PBIS features implemented across the four classrooms following consultation (Red classroom 32.26% to 93.94%, Green classroom 32.14% to 78.75%, Yellow classroom 17.9% to 53.01%, and Blue classroom 33.81% to 69.44%). There were also changes in teachers' perceptions about challenging behavior from pretest to posttest. Teachers' perceptions of challenging behavior were individually determined using an eight-question evaluation with a 5-point Likert scale for each question where 1 indicated strong disagreement and 5 indicated strong agreement. To analyze, scores from all four teachers were averaged for each question. The pre-test and post-test scores were both 5.5 for the desired outcome of, "The majority of my students are engaged in academic or social play tasks, sitting appropriately (bottom in seat or on floor), and attending to the teacher or materials" (Carter & VanNorman, 2010, p. 287). The pre- to posttest average increased

slightly (5.75 to 6) for the desired statement, “The majority of my students appear to have a positive affect (e.g., smiling, laughing)” (Carter & VanNorman, 2010, p. 287). During pre-test evaluation teachers’ average response to, “For the majority of the day (80% or greater) students are engaged in instruction or appropriate activity (e.g., circle time, snack time, centers)” (Carter & VanNorman, 2010, p. 287) was 5.00 and the posttest average slightly increased to 5.75. The pre- to posttest average for, “In general, the frequency and severity of the challenging behavior in my classroom is low (i.e., one or less instances of challenging behavior in a day)” (Carter & VanNorman, 2010, p. 287) decreased slightly (3.5 to 2.67). The outcome desired to decrease, “The majority of my students are engaged in challenging behavior and are not attending to the teacher or materials” (Carter & VanNorman, 2010, p. 287) decreased noticeably from pretest (3.00) to posttest (1.25). The outcome “For the majority of the day (80% or greater) I respond to discipline issues (e.g., providing corrective statements) and challenging behaviors” (Carter & VanNorman, 2010, p. 287) also decreased from pretest (4.00) to posttest (3.75), but not as significantly. The pre- to posttest average for “In general, the frequency and severity of challenging behavior in my classroom is high (i.e., greater than 5 instances of challenging behavior in a day)” (Carter & VanNorman, 2010, p. 287) decreased from pretest (3.00) to posttest (2.25). The final outcome on the questionnaire decreased from pretest (2.50) to posttest (1.75), “I am concerned about the frequency and severity of the challenging behavior in my classroom” (Carter & VanNorman, 2010, p. 287).

Just as low occurrences of behavior during baseline data collection led to no significant change in children’s behavior in the Benedict et al. (2007) study; high percentages of academic engagement during baseline data collection led to no significant

change in children's behavior in Carter and VanNorman's (2010) study. During baseline, students in the Red classroom were academically engaged an average of 75.4% of the time. Following consultation and an increased use of PBIS strategies, engagement increased to an average of 80.92% of the time. In the Green classroom, academic engagement occurred on average 90.15% of the time. Following experimental implementation, classroom engagement decreased slightly to 87%. The Green classroom was the only classroom that decreased. Engagement in the Yellow classroom averaged 85.04% of the time during baseline data collection and increased to 90.67% during post-intervention data collection. In the blue classroom, children were academically engaged an average of 96.55% of the time. Following consultation and an increase in the occurrence of PBIS features, academic engagement increased to 99.17%. In both studies, the teachers increased their use of PBIS strategies in their classroom, but this change did not lead to a significant decrease in the occurrence of challenging behavior (Benedict et al., 2007) or a significant increase in the average of academic engagement (Carter & VanNorman, 2010).

Overall, teachers reported that PBIS consultation was positive (Carter & VanNorman, 2010; Stormont et al., 2007), excellent (Benedict et al., 2007), and that they would recommend it to others (Benedict et al., 2007; Duda et al., 2004). Duda et al. (2004) used two procedures to assess social validity. In the first procedure, teachers strongly agreed that the interventions were effective, comfortable to use, and developmentally appropriate. In the second procedure, three doctoral-level, non-familiar participants reported less significant problem behaviors, fewer peers distracted from activities, and an increase in child engagement. Observers also noted the teacher appeared

to have less difficulty managing the children. Carter and VanNorman (2010) researched teachers' perceptions of students' challenging behavior before and after consultation. The researchers noted anecdotally that the teachers appreciated the individualized feedback, specifically graphs showing implementation of target skills over time, and the opportunity to ask specific questions.

Immediately following the last consultation session in each participating classroom, Benedict et al. (2007) assessed the social validity of PBS consultation. Eight of the nine participants involved in the study filled out the questionnaire. The questionnaire contained 11 items: eight questions in which teachers rated PBIS consultation on a 6-point Likert scale (1 = poor to 6 = excellent), two open-ended questions where teachers were asked to describe the best part about consultation and to make recommendations for improving future consultation, and the final item asked teachers to respond: strongly agreed, agreed, disagreed, or strongly disagreed with the statement, "I would recommend consultation to other individuals in my field" (Benedict et al., 2007, p. 184). The mean rating in response to, "The appropriateness of consultation information for use with young children" (Benedict et al., 2007, p. 189) was 5.25 with a range of 4-6. Teachers' responses ranged from 4-6, with an average of 5.38, for the statement, "The consultant's attention to the particulars of the classroom (e.g., program goals, needs, values)" (Benedict et al., 2007, p. 189). The statement, "The effectiveness of consultation to encourage you to reflect on your teaching" (Benedict et al., 2007, p. 189) had a mean rating of 5.13 with a range of 4-6. The statement, "The effectiveness of consultation to decrease young children's problem behavior in your classroom" (Benedict et al., 2007, p. 189) had the greatest range of responses (1-6) and the lowest average out

of all of the questions (4.50). Teachers responded with a range of 4-6 and an average of 5.00 to the statement, “The effectiveness of consultation to improve children following classroom rules” (Benedict et al., 2007, p. 189). The last two statements of the questionnaire had the same averages (5.89) and ranges (5-6) and were the highest averages out of all of the questions, “The ability of the consultant to communicate effectively with teachers” (Benedict et al., 2007, p. 189) and “The responsiveness of the consultant to your questions and feedback” (Benedict et al., 2007, p. 189).

Overall teachers reported that the PBIS consultation was excellent and that they would recommend it to other teachers. Participant’s responses showed that they felt consultation was an appropriate strategy to use with young children and that the consultation process effectively encouraged reflection. Participants highly rated the consultants. Their responses showed that participants felt the consultant attended to the program’s goals, needs, and values; communicated effectively; responded to teacher’s questions; and provided feedback. Responses varied (1 to 6) on the effectiveness of consultation on decreasing problem behavior. Participant’s averaged responses were 4.5 for its ability to decrease problem behavior and slightly higher (5.0) for consultation’s effectiveness of improving children’s ability to follow classroom rules (Benedict et al., 2007).

Group Data Collection

Krasch and Carter (2009) did not research group data collection, but rather described in detail how to successfully collect data when implementing PBIS. One way to limit challenges in data collection is to use group data to guide decision-making and achieve success with class-wide supports. Whole class data collection is efficient and less

time-consuming than multiple individual assessments and 80-85% of students will benefit from whole-group supports (Krasch & Carter, 2009). One data collection method that is efficient and effective for monitoring following expectations is tallying. A teacher can make a chart consisting of dates, expectation(s), daily schedule, averages, and the days of the week. The teacher marks a tally each time a student or students do not follow classroom expectations. This data can be used to determine which expectations students are following, which expectations may require further teaching, and what times of the day or days of the week are most challenging. Krasch and Carter (2009) suggested that teachers might also want to target specific times of the day or observe more than one expectation at a time. However the goal remains not to collect as much data as possible, but to collect the most useful data possible and use that to guide planning and instruction. To prevent having to always carry a tally chart, teachers can place a piece of masking tape on the back of their hands to record information on and later transfer the marks to the chart.

Time sampling is one effective method to collect data on academic engagement. The teacher creates a chart listing the date, start and end time, number of students in attendance, and activity observed with the determined time interval listed vertically and the number of students off-task listed horizontally. Using a stopwatch or timer the teacher records the number of students off task at each determined interval. This data can be used to determine an appropriate length of time for different classroom activities. Time interval could also be used to provide data on different behaviors, such as appropriate use of materials, teacher-led instruction, or independent work. Gathering information on student engagement during teacher-led instruction or independent work could inform

decisions regarding teacher methods, duration of activity, the need for review or re-teaching, and the appropriateness of teacher expectations. To identify individuals who need targeted interventions, initials of students off-task could be recorded instead of a number (Krasch & Carter, 2009).

The simplest way to monitor transitions is to time them. This information is useful because time spent in transition is not time spent learning. Teachers should start timing as soon as directions have been given and stop when every student has completed the transition. The time can be recorded in a chart with the daily schedule, days of the week, and averages. Transition data can assist teachers in identifying expectations to re-teach or practice, transitions that need to be set as group goals, strategies that are working well, and possible changes that might need to be made to the daily schedule. It might be helpful to apply routines from shorter transition times to those transitions with longer times. A teacher can also decide to only focus on one transition instead of all. This data can be used to inform teachers on the quality of directions being given by showing how long it takes students to begin an activity after being given directions (Krasch & Carter, 2009).

Functional Behavior Assessment

Three studies were found where a school team completed the FBAs (Chandler et al., 1999; Gettinger & Stoiber, 2006, Stoiber & Gettinger, 2011). In all other studies reviewed, the researchers completed the FBAs (Blair, Fox, & Lentini, 2010; Blair, Umbreit, & Bos, 1999; Doggett et. al., 2001; Wood, Ferro, Umbreit, & Liaupsin, 2011). In the Chandler et al. study, administrators, teachers, assistants, social workers, psychologists, and therapists attended two 8-hour functional assessment workshops. The

workshops focused on conducting functional assessment, selecting and applying positive intervention strategies related to the function of behavior, and strategies to arrange variables within classroom settings in order to prevent and remediate challenging behavior. The format consisted of lecture, discussion, group activities, and analysis of videotaped and written case studies. Chandler et al. chose four early childhood classrooms as controls. Three at-risk classrooms (60 children) and eight special education classrooms (75 children) were chosen for the intervention. Within one week of the workshop, under the observation of the behavior specialist, each classroom team initiated functional assessment procedures for an initial student. The first week, the teams collected information related to the conditions of challenging and appropriate behaviors, identified the functions of challenging behaviors, developed positive interventions to reduce environmental and social supports for the challenging behaviors, and identified appropriate replacement behaviors. During this time, the teams received direct coaching and modeling of procedures and the behavior specialist participated in team meetings. During the second week, as team members implemented intervention strategies, they received only coaching support. The behavior specialist observed for one class session and provided advice, feedback, and reinforcement. During the third week, the behavior specialist continued coaching, but only remained in the classroom for half of the class session. The final week, the behavior specialist only provided advice, feedback, and reinforcement during the team-planning meeting.

Each classroom received this model of support for four students, resulting in a four-month intervention period. Intervention strategies derived from an FBA, completed and implemented by classroom teams with faded consultation from a behavior specialist,

had a significant effect on the challenging behavior of the studied students within each classroom. The percentage of challenging behavior for students in special education classrooms decreased from 23% to 4%, and for at-risk classrooms, challenging behavior decreased from 12% to 2%, which is similar to levels observed in the control group. Active engagement increased from 75% to 86% in the at-risk classrooms and increased from 61% to 66% in the special education classrooms. Both levels nearly reached control group levels, which were 70%. Non-engagement observed in at-risk classrooms decreased from 16% to 2% and in special education classrooms decreased from 30% to 5%. These percentages were similar to those obtained in control classrooms. During baseline assessment, students in the control classrooms engaged in peer interactions 31% of the time, while students in at-risk and special education classrooms engaged in much less peer interaction (9% and 1% respectively). After the intervention, peer interaction increased significantly in the at-risk classroom (34%), but increased only slightly in the special education classroom (7%). However, during maintenance, the percentage of time engaged in peer interactions increased to 13% in the special education classrooms (Chandler et al., 1999).

Both the Gettinger and Stoiber (2006) and Stoiber and Gettinger (2011) studies evaluated the use of functional assessment and PBIS strategies implemented by school-based teams with consultative support and then implemented without support. Both studies collected evidence to examine the effectiveness of functional assessment and PBIS on the occurrence of both challenging and positive behavior of participating children. However, the Gettinger and Stoiber (2006) study focused on how implementation fidelity affected child outcomes, whereas the Stoiber and Gettinger

(2011) study focused on teacher's beliefs regarding accommodation of children with challenging behaviors.

The Gettinger and Stoiber (2006) study involved 70 students, four to seven years old, attending pre-kindergarten, kindergarten, or first grade in four school districts. The districts were randomly assigned to the experimental (25 teachers, 6 schools) or control (16 teachers, 4 schools) groups. Each teacher in the experimental group nominated two children who exhibited disruptive or aggressive behavior that interfered with their learning. One of these children was randomly assigned as the child who would receive the experimental treatment planned, designed, and implemented by the school-based team working with the consultants. The other child was assigned as the generalization child for whom the experimental treatment would be planned, designed, and implemented by the school-based team alone. Teachers also identified a third child who exhibited typical behavior to serve in a normative comparison group. Teachers in the control classrooms nominated one or two children to participate who exhibited disruptive behavior that interfered with their learning and one or two children who exhibited typical behaviors.

The experimental treatment was a five step process: conduct a functional assessment, establish goals and benchmarks, develop a comprehensive behavior support plan, implement the plan and monitor progress, and summarize and evaluate outcomes. Multiple phases were used to progress through the process. During phase one, teachers nominated participants and completed ratings of children's academic and behavioral functioning. Phase two consisted of two, six-hour trainings. During the second training, the teams developed functional assessment plans for the first group of children, assigned roles, and established goals. Baseline data collection and observation for all children in

experimental and control classrooms was completed during phase three. Goal behaviors were also observed for all children in control classrooms. School-based teams completed functional assessments and then met with consultants to review data and develop hypotheses during phase four. During phase five, a third training was provided to the teams in order to develop the intervention plans. The plans were implemented during phase six which lasted five to six weeks. Near the end of phase six, the teams met with the consultants to review data and make revisions if necessary. Teams also established goals for the generalization children. Baseline data collection and observations of the first and second goal behaviors were completed for all children in the experimental group during phase seven. During phase eight, without training or consultative support, school-based teams completed functional assessments and developed and implemented intervention plans for the generalization group. The intervention plans also continued for the first group of children. Observations of children's behaviors and classroom variables were completed for all children in the experimental and control classrooms during phase nine. Goal behaviors were also observed in experimental classrooms (Gettinger & Stoiber, 2006).

Data was collected three times during the study. The first data collection period (D1) was baseline data collection. The second data collection period (D2) was pre-intervention for the generalization group and five to six weeks into the intervention for the first group of children. The last data collection period (D3) was post intervention 11 to 12 weeks for the first group of children and post intervention five to six weeks for the generalization group. During all three periods of data collection, the average numbers of occurrences of both positive (social cooperation and engagement and learning behavior)

and challenging behavior (aggression, distractibility, noncompliance, and negative affect) across two observation sessions were calculated in the experimental classrooms. The same process was followed in control classrooms, but only during the first and last data collection periods. The occurrence of goal behaviors set for the first group of children was collected for all children in the experimental classrooms across two observation sessions during all three data collection periods. The occurrence for goal behaviors set for the generalization group was collected for all children in the experimental classrooms only during the second and last data collection periods (Gettinger & Stoiber, 2006).

Positive behavior increased for children in the first group, whose intervention was done by a school-based team with the support of training and consultation, and for the generalization group, whose intervention was done by a school-based team without support. During D1 children in the first group and children in the generalization group displayed social cooperation at a similar rate, 3.34 and 3.28 respectively. Both groups increased the occurrence of social cooperation during D2. Surprisingly, children in the generalization group had not yet received the experimental treatment. However, children who had received the experimental treatment did have a higher rate (7.54) than those that had not (5.69). Both groups again increased the occurrence of social cooperation during D3. Again children in the first group displayed a higher rate (8.16) than those in the generalization group (6.75). Both groups also increased in the occurrence of engagement throughout the three data collection periods. Again, the generalization group improved from D1 (10.75) to D2 (12.61), even though they had not yet received the intervention. Children in the first group had a lower baseline score than children in the generalization group (10.21), however, their D2 score was higher than the generalization group (15.96).

During D3, engagement was 18.11 for the first group and 16.43 for the generalization group (Gettinger & Stoiber, 2006).

Negative behaviors decreased for both groups from baseline data collection to post-intervention data collection. Aggression was higher for students in the first group compared to students in the generalization group during D1 (2.30 and 1.96 respectively). However, similar to results of the positive behaviors, aggression decreased to .08 for the generalization group during pre-intervention data collection. Again, children who had received the intervention decreased more than children who did not (.51). Both groups decreased the occurrence of aggression from D1 to D3 (.74 and .35 respectively). Out of the four negative behaviors, distractibility had the highest baseline occurrence for both groups. Children in the first group went from 9.39 occurrences of distractibility during baseline data collection to 3.46 during D2, and finally to 3.19 during D3. Children in the generalization group again followed the trend of decreasing challenging behavior without direct intervention, (D1=7.15, D2=7.00). However, following intervention, there was a noticeable drop in the occurrence of distractibility (D3 4.18). Noncompliance showed the same results as other challenging behaviors. Noncompliance decreased for the generalization group from D1 (2.23) to D2 (1.93). The children in the first group had lower levels of noncompliance (1.50, 0.78) than the generalization group (1.93, 1.44) during D2 and D3. Negative Affect decreased for both groups of children. Children in the generalization group decreased between D1 and D2 (2.01, 1.97), but decreased even more during post-intervention (.57). Children in the first group had a higher baseline occurrence than the generalization group (2.22), but decreased to .92 during D2. The occurrence of negative affect was lower during D3 (.80), but was higher than the

occurrence at D3 for the generalization group (Gettinger & Stoiber, 2006).

Implementation of FBA and PBIS were associated with an increase in positive behaviors, reduction in challenging behaviors, and higher performance of individual goal behaviors from baseline to post-intervention data collection. Compared to children in control classrooms, children in the experimental classrooms displayed a higher frequency of positive behaviors and fewer negative behaviors at post-intervention data collection. Positive outcomes were achieved for children in both the group where functional assessment and PBIS strategies were implemented with training and consultation, as well as for the group when FBAs and PBIS strategies were implemented without training and consultative support. However, the positive impact was not as strong for the generalization group as for the first group. The school-based teams were able to generalize their knowledge and skills about functional assessment and PBIS to implement the experimental treatment without requiring extensive consultation. Teams received ongoing coaching and support from the consultants as they conducted a functional assessment, developed a comprehensive behavior support plan, implemented the intervention, and monitored progress for the first group of children; however, they successfully completed these steps for the generalization group without support from the consultants. Generalization of strategies also occurred from the focus children to other children in the environment. Many of the positive support strategies designed to address the behavior of the first group of children involved classroom environmental variables that were applied to other students within the classroom. The significant improvement in social cooperation for the generalized group that occurred before implementation of their intervention plans was likely due to the implementation of intervention plans for the first

group (Gettinger & Stoiber, 2006).

In the Stoiber and Gettinger (2011) study, four school districts were randomly assigned to participate in the experimental program or to participate in the control group. Both the experimental and control groups contained 35 teachers. The mean years of experience was 13.92 years for the experimental group and 11.44 years for the control group. None of the teachers had received formal training in FBA or PBIS prior to the study. The four school districts had building support teams that met weekly to address individual teacher referrals. During the two year period in which the study was conducted, building teams continued to function in their usual manner in each school. For the experimental schools, the FBA and PBIS procedures supplemented, but did not replace the existing team process. There were a total of 90 student participants (57 children in the experimental program and 33 children in the control program), 4-7 years of age, served in prekindergarten, kindergarten, or first-grade classrooms. Each teacher in the experimental group nominated two children with disruptive, noncompliant, or aggressive challenging behavior. One child from each experimental classroom was randomly assigned as the target child who was the focus of FBA and PBIS procedures implemented by the teacher, school-based team, along with the researcher's expert consultation and training. The second child was the generalization child who was the focus of the study's experimental approach, consisting of the teachers and school-based team implementing FBA and PBIS procedures without consultative support from the researchers. The teachers from the control classrooms each nominated one child who exhibited challenging behaviors to comprise the control group. Teachers in the control classrooms nominated children, completed behavior ratings, and were observed. They did

not participate in any training or implementation phases, and did not receive manuals or resources related to FBA and PBIS (Stoiber & Gettinger, 2011).

The experimental program consisted of a five-step process that was implemented collaboratively by classroom teachers, school psychologists, and other members of the school-based teams. The five-step process was to 1) Conduct FBA; 2) Establish Goals and Benchmarks; 3) Design a Positive Support Plan (PSP); 4) Implement the PSP and Monitor Progress; and 5) Summarize and Evaluate Outcomes. Each step had multiple components. All team members participated in the professional development sessions and worked collaboratively to implement assessment and intervention procedures, following procedures outlined in the provided manual for conducting FBAs and designing intervention plans for individual children. A structured record form guided implementation. The form specified each activity and was used to summarize the results of the FBA, develop a PSP with positive support strategies linked to assessment results, and monitor implementation and progress. Two cycles of eight study phases were implemented over a two-year period. The first year included 14 experimental and 15 control classrooms; the second year included 21 experimental and 20 control classrooms (Stoiber & Gettinger, 2011)

Phase 1 lasted two weeks and consisted of child participant selection and pre-intervention assessment. Teachers nominated children for participation and completed behavior-rating scales for all children for whom parental consent was obtained. Teachers completed ratings of their knowledge and skills related to FBA and PBIS and beliefs about accommodating children with challenging behaviors in their classrooms. Parents completed behavior-rating scales for their children (Stoiber & Gettinger, 2011).

During Phase 2, experimental teachers and school-based teams participated in one 5-hour training session conducted by the researchers. Participants received a procedural manual that included resource materials, record forms, training activities, and step-by-step procedures for implementing FBA and PBIS. The researchers provided participants with an overview of the study's five-step experimental process, reviewed characteristics of collaboration, allowed participants to practice and evaluate their own collaboration skills, and provided an explanation and demonstration of functional behavior assessment (Stoiber & Gettinger, 2011).

In Phase 3, teachers and school-based teams participated in a second 5-hour training session that focused on establishing goals and benchmarks. Researchers demonstrated the process of establishing goals and writing benchmarks to monitor children's progress toward goals. School-based teams established one goal for the target child and one goal for the generalization child. Teams developed plans for completing FBAs for the target children (Stoiber & Gettinger, 2011).

Trained observers conducted observations of children's behavior and teachers' classroom practices for two weeks during Phase 4. In two weeks during Phase 5, school-based teams completed FBAs for the target children and met with the researchers to review FBA information and behavior goal statements and benchmarks for the target children. Phase 6 was a third 5-hour training session focused on developing a PSP. Teachers received training on characteristics of effective intervention plans: incorporate an integrated set of multiple strategies linked to the FBA data, emphasize preventative and positive approaches, and promote children's development of positive classroom behaviors (Stoiber & Gettinger, 2011).

During Phase 7, teams implemented the PSPs over an eight to ten week intervention period for the target children. The researchers met with teachers and their school-based teams midway through Phase 7 to discuss procedural issues and review the progress of the target children. Teams were instructed to initiate and complete the 5-step process for the generalization children without consultation and support from the researchers. Intervention strategies were implemented in classrooms for generalization children for four to five weeks (Stoiber & Gettinger, 2011).

Finally, during Phase 8, teachers completed behavior ratings for target and generalization children. Teachers rated their knowledge and beliefs about their effectiveness, observers conducted observations of children's behavior and classroom practices, and parents completed behavior-rating scales for their children (Stoiber & Gettinger, 2011).

Using teacher behavior ratings, this study demonstrated differences in conceptual knowledge between experimental and control teachers. Teachers in the experimental group rated themselves higher in competence and effectiveness than control group teachers. Teachers who received professional development in FBA and PBIS practices demonstrated higher conceptual knowledge and utilization of preventative strategies, teaching strategies, and FBA development strategies than teachers in the control group. Professional development was attributed to significant changes in teachers' ratings of their competencies in the areas of FBA, intervention planning, and ability to accommodate children with challenging behavior. Teachers in the experimental group demonstrated greater application of FBA and PBIS practices in their classrooms than control teachers (Stoiber & Gettinger, 2011).

Child data showed high implementation scores for both the target and generalization groups. However, scores were higher for the target children (76%) than the generalization children (60%). Children in both groups improved on their behavior goals from pre- to post- intervention. Neither group demonstrated any change in behaviors not addressed in their goals. Assessments indicated that children in the target group significantly improved in the areas of externalizing behaviors, behavioral symptoms, and adaptive skills. Children in the generalization group only showed significant improvement on the adaptive skills part of the assessment. The assessment scale showed significant differences between children in the target group and children in the control group for three negative behavior subscales: aggression, noncompliance, and negative affect. Children in the generalization group showed higher rates of positive behaviors compared with students in the control group on the positive behavior scale and on three positive subscales: self-control, social cooperation, and learning behavior. The generalized group also demonstrated lower ratings of negative behavior on the challenging behavior scale and on the aggression subscale assessments. During researcher post-intervention observation, children in the target and generalization groups displayed more social cooperation and engaged behaviors and lower aggression and noncompliance compared with children in the control group. Post-intervention data analysis revealed a significant difference between target and control children for occurrence of distractibility and negative affect behaviors. Target children demonstrated fewer problem behaviors. Overall, children in both the target and generalization group were rated by classroom teachers using assessment scales as displaying a higher frequency of positive behaviors and a lower frequency of challenging behaviors

compared with teacher ratings of children in the control group. There was no significant change in behavior between pre- and posttest scores for children in control classrooms (Stoiber & Gettinger, 2011).

Blair et al. (2010) completed a functional behavior assessment on three children in a community based early childhood program. They worked with the teachers to develop behavior support plans. Several 2-hour brainstorming sessions were used to identify prevention strategies linked to antecedent variables, strategies to teach new skills, and strategies to respond to the functions of the problem. This time was also used to redesign the circle time environment and modify instructional procedures to include the strategies outlined in each child's behavior support plan. Each plan included intervention goals, summaries of the functional assessment, problematic routines and situations that needed behavior support, and routine-based strategies. The day before the intervention was implemented for each child, the researchers reviewed the intervention plan, checked activity materials to make sure the materials were prepared according to the strategies, participated in circle time activities, modeled strategies, and coached the teachers. During baseline data collection, teachers demonstrated support strategies an average of 3.3% of the time; teachers implemented strategies 92.2% of the time while following the behavior plan. Data collected showed that teachers generalized strategies to non-trained routines. During baseline collection, the teachers implemented strategies an average of 0.9% during center time and 2.6% during transition time. While implementing the behavior plan, use of strategies increased to an average of 99.4% and 100% for center time and transition time respectively. Problem behavior decreased for all three children participating (Child 1: 34.2% to 4.2%, Child 2: 72.5% to 14.5%, and Child 3: 77.3% to

7.3%). Engagement increased for all three students (Child 1: 61.6% to 96.1%, Child 2: 27.6% to 87.5%, and Child 3: 20.7% to 80.1%). During follow-up, the students maintained low levels of problem behavior and high levels of engagement. For two of the students, these levels were maintained in a new classroom. New classroom staff were briefed on the behavior support plan and observed by the researchers on the first session of implementation of the behavior plan and strategies (Blair et al., 2010).

The teachers involved in the study reported that individualized PBIS was effective, feasible, and usable. They felt that the circle time routine went from being “out of control” (Blair et al., 2010, p. 75) to “manageable” (Blair et al., 2010, p. 75). During transitions, the children quietly lined up instead of running away. The teachers reported that individualized PBIS strategies were effective in reducing the targeted children’s problem behavior and increased children’s engagement. The teachers reported feeling less stressed and more in control of planning classroom routines. Both teachers involved in the study commented that planning and implementing the strategies collaboratively with the researchers and each other was key to making individualized PBIS work in their classroom.

Wood et al. (2011) also conducted a study involving three children. Each student’s teacher and one child’s grandmother were included in identifying the function and the development of the intervention. However, the researcher conducting the FBA took the lead role in collecting and analyzing data and in developing the interventions. The grandmother attended the program with her grandson due to his extremely challenging behavior. The researcher coached the staff and grandmother upon request during implementation. The mean of on-task behaviors for Child 1 during baseline was

37% and the mean during interventions was 68%. When the intervention was implemented correctly, Child 1's on-task behavior improved (100% intervention fidelity led to 90% on task behavior), but with only 20% intervention fidelity, Child 1's on task percentage was only 3%. Child 2 also increased on-task behavior from a baseline mean of 12% to an intervention mean of 84%. Again it was shown that low percentages of correct implementation led to low levels of on-task behavior. Child 3's on-task behavior also increased, from 11% to 99%. Intervention integrity was above 90% for all of Child 3's sessions. In two of the cases, low percentages of on-task behavior corresponded to low implementation integrity and in one case, high percentages of on-task behavior corresponded to high implementation fidelity. Two of the participants improved on-task behavior percentages during maintenance. Unfortunately the other student's on-task percentage decreased. However, he remained far above the baseline percentage.

The Blair et al. (1999) study involved two preschool classrooms serving four and five year olds in a nonprofit child-care center. Most of the children were from ethnically and culturally diverse families with low incomes who received public assistance. Teacher A had one year of experience and Teacher B had eight years of experience. Both classroom teachers identified two children who had demonstrated challenging behaviors and one additional child who demonstrated similar behaviors for a generalization group. Child 1 was diagnosed with attention deficit disorder and was described as being frequently off task and noncompliant. Child 2 also frequently engaged in off-task behavior in addition to being disruptive and aggressive toward peers and staff. Child 3 also displayed aggressive behaviors, as well as noncompliant behaviors. Child 4 was described as being off-task and aggressive. The behavioral problems of the four children

were directed both toward peers and staff. They occurred several times each day and regularly throughout the day. The special education districts that served these children confirmed that assessment results and teacher reports about the children's frequent problem behaviors would qualify them for special services under the emotional and behavioral disorders category.

The researchers conducted a functional behavioral assessment for each child. Functional assessment consisted of an interview and three 10 to 20 minute observations for each child. Observations occurred during large group instruction for Teacher A and during individual table activities for Teacher B. These were the situations that each teacher identified as the most problematic. The teaching staff collaborated with the researcher to develop two or three hypotheses for each child. Hypotheses were based on the interview and observation data, identified the conditions under which improved behavior was likely, and directly testable within the context of naturally occurring activities in the early childhood environment. Hypothesis 1 for all four children involved the use of preferred activities, which led to the first step of testing hypotheses being a preference assessment. Four conditions (preferred activities with long task, preferred activities with short task, nonpreferred activities with long task, and nonpreferred activities with short task) were tested for Child 1. Child 1 engaged in appropriate behavior an average of 99% of the time during preferred activity, regardless of task length. He engaged in challenging behavior an average of 73% of the time across all nonpreferred activities, regardless of task length. These results supported the preference hypothesis, but did not support the task length hypothesis. Child 2 also had four conditions (preferred activities with attention, preferred activities with no attention,

nonpreferred activities with attention, and nonpreferred activities with no attention).

Child 2 engaged in appropriate behavior an average of 99% of the time during preferred activities. She exhibited challenging behavior 75% of the time during nonpreferred activity sessions. Levels of problem and appropriate behaviors were similar, regardless of whether attention was or was not provided, supporting the preference hypothesis, but not the attention hypothesis. Preferred activities without choice, preferred activities with choice, nonpreferred activities without choice, and nonpreferred activities with choice were the four conditions tested for Child 3. During both conditions involving preferred activities, Child 3's average percentage of appropriate behavior (92%) was higher than during both nonpreferred conditions (9%). High levels of challenging behavior occurred during both conditions involving nonpreferred activities. This supported Hypothesis 1 (preference), but not Hypothesis 2 (choice). Six conditions (preferred activities with attention and social skills, preferred activities with attention, preferred activities, nonpreferred activities with attention and social skills, nonpreferred activities with attention, nonpreferred activities) were tested for Child 4. When given a preferred task, frequent attention, and social skills prompting, Child 4 engaged in appropriate behavior nearly 100% of the time. The reverse occurred when given a nonpreferred task, no attention, and no social skills prompting; Child 4 engaged in problem behavior 100% of the time. The data supported preferred task, frequent attention, and social skills prompting hypotheses (Blair et al., 1999).

The teachers developed interventions that were based on the hypotheses supported by testing. All of the children's challenging behaviors decreased from baseline data collection to post-intervention. During baseline data collection, Child 1 engaged in

challenging behavior 70% to 90% of the time. During the intervention period, his challenging behavior occurred rarely (0% to 12%). Child 2's challenging behavior occurred 62% to 78% of the time during the baseline period. Child 2's challenging behavior was reduced to 0% to 8% during the intervention period. Child 3 had no occurrences of challenging behavior during the intervention period, compared to 82% to 100% of the time during baseline data collection. Child 4 engaged in challenging behavior 80% to 100% of the time during baseline data collection. During the intervention period, Child 4 engaged in challenging behavior 0% to 22% of the time (Blair et al., 1999).

Generalization data to nontargeted activities was collected for all four children. During baseline, challenging behaviors during nontargeted activities occurred 40% to 90% of the time. During the intervention, problem behaviors during nontargeted activities were nearly eliminated. Peers selected for generalization also reduced instances of challenging behavior from baseline data collection to post-intervention. The peer in Classroom A engaged in challenging behavior 74% to 82% of the time during baseline data collection and engaged in challenging behavior only 0% to 2% of the time during the intervention period. The peer in Classroom B engaged in challenging behavior 52% to 65% of the time during baseline data collection and rarely engaged in challenging behavior during the intervention period (0% to 4%). Challenging behaviors were drastically reduced when individualized preferred activities, identified as correct hypotheses by functional assessment, were imbedded within existing classroom activities. This study also showed high rates of generalization of interventions reducing the occurrence of challenging behavior during nontargeted activities for target children and

nontargeted peers. Successful generalization to nontargeted peers suggested that they had the same function of challenging behavior as the targeted children. If this had not been the case, their challenging behavior could have increased, which would have illustrated the importance of basing interventions on functional behavior assessment (Blair, Umbreit, & Bos, 1999).

During baseline data collection, Teacher A demonstrated negative interaction with children 28% to 35% of the time, compared to positive interactions occurring only 13% to 17% of the time. During the intervention period, negative interactions declined to between 0% and 8% of the time and positive interactions occurred 72% to 95% of the time. Teacher B engaged in negative interactions with the children 10% to 18% of the time and engaged in positive interactions 6% to 15% of the time during baseline data collection. During the intervention period, 0% to 2% of Teacher B's interactions were negative and 91% to 100% of the interactions were positive (Blair et al., 1999).

Doggett et al. (2001) completed research in which two behavior consultants trained two teachers in functional behavior analysis, provided cues during functional analysis conditions, provided performance feedback at the completion of each session, and collected data throughout functional behavior analysis conditions. Each teacher conducted functional analysis for one student in her classroom. Child 1 was six years old and Child 2 was seven years old. Teacher 1 had a bachelor's degree and one year of teaching experience. Teacher 2 had a master's degree and four years of teaching experience. Neither teacher had prior experience in conducting a functional behavior assessment or implementing behavioral interventions. Child 1's challenging behavior was described as being frequently out of his seat (child's full body weight not being supported

by a chair for at least 3 seconds), requesting assistance without raising his hand, calling out answers during academic instruction without permission, and arguing with the teacher about an assignment or after being reprimanded. Child 2's challenging behavior was described as the same inappropriate teacher engagement behaviors as Child 1, in addition to talking to peers about unrelated subjects, touching peers, calling out peers' names, or waving to peers to get their attention during academic instruction.

During the descriptive phase of the functional behavior assessment, each teacher completed an interview assessment. The first section obtained demographic data about the student, information about the student's work completion, and accuracy rates in specific academic areas. The second section of the assessment identified times and activities when the student performed the problem behavior and times and days to observe the student's behavior during ongoing classroom activities. The second section also required the teacher to list one to three challenging behaviors in order of severity and to rate the behaviors based on manageability, disruptiveness, frequency, and longevity. The third section contained questions that led to the formation of hypotheses based on antecedents. The final section contained questions that were used to form hypotheses based on consequences. After the teachers recorded responses on this assessment, the behavior consultants conducted interviews with the teachers to clarify responses. Assessment information was used to identify times to observe each student, determine operational definitions of the problem behaviors, and obtain examples of the antecedent and consequence events. Based on the interview assessments and observations done by the behavior consultants, Child 1's function of behavior was determined to be teacher

attention, and social attention from both teachers and peers was hypothesized as maintaining Child 2's challenging behaviors (Doggett et al., 2001).

Prior to the teachers implementing functional analysis, the behavior consultants discussed with the teachers the behavioral definitions of the target behaviors and the components of the functional analysis conditions. The behavior consultants modeled providing disapproval and approval. For the peer attention conditions, the behavior consultant discussed where the student would be seated and with which peers the student would be grouped for each condition. Lastly, the teachers were given the opportunity to ask questions or bring up any concerns about performing the functional analysis. The functional analysis for teacher attention consisted of two conditions: Condition A where the teachers responded to challenging behavior with frowns, stares, reprimands, redirections, interruptions, and physical touch (e.g., tap on the shoulder for talking without permission), and Condition B where the teachers responded to the occurrence of appropriate behavior with smiles, praise statements, assistance with assigned work, and physical touch (e.g. pat on the shoulder when working on an assigned task). An observer cued teachers to use disapproval in Condition A and approval in Condition B at one-minute intervals after the first occurrence of challenging behavior during Condition A or appropriate behavior during Condition B. This rate was determined by observation data collected during the functional behavior assessment. The functional analysis of peer attention consisted of Condition A where Child 2 was grouped with peers likely to attend to his challenging behavior, and Condition B where Child 2 was placed at a table or desk away from the peers involved in Condition A and in proximity to peers selected by the teacher as likely to ignore his challenging behavior (Doggett et al., 2001).

During the teacher attention analysis, Child 1's challenging behavior occurred 57% of the time when the teacher responded with disapproval to challenging behavior and only occurred 14% of the time when the teacher responded with approval to appropriate behavior. When the teacher provided attention in response to challenging behavior, work completion averaged 40% and work accuracy averaged 100%. When the teacher provided attention for appropriate behavior, work completion averaged 100% and work accuracy averaged 99%. For Child 2 during the disapproval condition, challenging behavior occurred an average of 28% of the time. When the teacher responded with approval to appropriate behavior, challenging behavior occurred 10% of the time. Work completion during the disapproval condition averaged 88% and work accuracy averaged 85%. During the approval condition, work completion averaged 100% and work accuracy averaged 90%. Challenging behavior occurred an average of 66% of the time when Child 2 was grouped with peers that attended to his problem behavior 48% of the time. Challenging behavior occurred an average of 19% of the time when he was seated with peers who attended to his behavior only 5% of the time. Work accuracy averaged 100% during both conditions. However, during Condition A, work completion averaged 58%, while during Condition B, work completion rose to 100%. This study is limited in the fact that the teachers performed functional analysis to determine if hypotheses based on descriptive methods of assessment were accurate, but did not then go on to implement interventions based on their conclusions that the hypotheses were correct (Doggett et al., 2001).

CHAPTER IV

Conclusions & Recommendations

Conclusions

This chapter will present conclusions and recommendations on the use of PBIS and FBA in early childhood. It is organized around the two research questions:

1. How can early childhood classroom staff effectively yet efficiently implement and maintain Positive Behavior Instructional Support (PBIS)?
2. How can early childhood teachers effectively and efficiently use Functional Behavior Assessment (FBA) to address challenging behaviors?

Effectiveness of Positive Behavior Instructional Support. PBIS may be implemented effectively in preschools (Benedict et al., 2007; Duda et al., 2004; Stormont et al., 2007). Consultation (Benedict et al., 2007; Carter & VanNorman, 2010; Duda et al., 2004; Stormont et al., 2007) and professional development were effective methods to increase teachers' use of universal and individualized PBIS practices. Teachers increased and maintained use of classroom rules, matrices, schedules, social emotional skills lesson plans, transition supports, student acknowledgment, specific verbal praise, and positive statements (Benedict et al., 2007; Carter & VanNorman, 2010; Stormont et al., 2007). Benedict et al. (2007) reported a baseline mean percentage of 30.79% of PBIS features implemented with a range of 13.33-46.48%. An action plan was developed, four preschool classroom teachers were provided with consultation and feedback to help develop supports and build on previous group training, and monthly meetings were held though the end of the school year. By the end of the year, teachers involved in the

experience were implementing 42% of universal PBIS practices, which was double their starting level.

Minimal interventions effectively changed teacher behaviors and positively affected students' behaviors (Benedict et al., 2007; Carter & VanNorman, 2010; Stormont et al., 2007). Selected PBIS interventions increased engagement and reduced challenging behaviors for two young girls attending an inclusive preschool (Duda et al., 2004). An intervention to increase three teachers' use of precorrection and specific praise statements reduced the occurrence of problem behavior for targeted students in a small group setting (Stormont et al., 2007). By supporting appropriate behavior for all students, problem behavior was reduced and intensive and time-consuming resources were applied more effectively and efficiently (Stormont et al., 2007).

Teachers were satisfied with the PBIS consultation process and would recommend it to other teachers (Benedict et al., 2007; Duda et al., 2004). Teachers supported strategies associated with PBIS, but were concerned about the feasibility of implementing them in early childhood settings (Stormont et al., 2007). Consultation takes a limited amount of teacher time and positive results have been demonstrated. The process provides time for teachers to reflect on classroom practices, time that is otherwise not made a priority or available. The process also allows teachers to ask the consultant questions on how to individualize PBIS practices to his or her classroom while maintaining developmentally appropriate practice (Carter & VanNorman, 2010; Duda et al., 2004).

Effectiveness of functional behavior assessment. The behavior, active engagement, and amount of peer interaction of a targeted group of students within at-risk

and special education classrooms improved when functional assessment was conducted by a classroom team with consultation by a behavior specialist. Classroom teams were able to successfully conduct functional assessments due to a training model consisting of participants attending workshops and receiving in-classroom coaching from experienced professionals. Other contributing factors were the duration of support and training content. Teachers were guided through the functional assessment process, provided application models of strategies, and given feedback and reinforcement across a four-month period. Content focused on examples of intervention strategies, general strategies to prevent challenging behavior and support appropriate behavior, as well as provided videotaped examples of teams applying functional assessment in school settings. Less emphasis was placed on terms and concepts, data collection techniques, and research review. However, participants did learn to identify setting events, antecedents, and consequences; determine the functions of appropriate and challenging behaviors; and how to select and apply interventions based on the functions of behaviors (Chandler et al., 1999).

School-based teams that received training on functional assessment, collaboration, and use of PBIS strategies were provided with ongoing coaching and support as they conducted functional assessments, developed comprehensive behavior support plans, implemented interventions, and monitored progress for targeted children. After training and initial consultation, the teams were able to complete these steps for a second child in each of their rooms without the support of consultation. All children participating in the experimental treatment had a decrease in challenging behavior and an increase in positive behavior; however children whose FBAs were planned and implemented by school-based

teams receiving consultation had a greater decrease in challenging behavior than children whose FBAs were planned and implemented by the school-based team alone (Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011).

When researchers completed functional assessment and behavior plans were developed in collaboration with classroom teachers, problem behaviors decreased and engagement increased for the three students studied in a community early childhood program. In addition to successfully implementing the individualized behavior support plans, the staff also applied interventions learned to non-trained routines. For two of the children, these results were maintained in new classrooms. The researchers provided the new classroom teachers with information on the successful intervention strategies and provided feedback on the new teachers' use of the intervention strategies. Sharing and feedback led to the continued use of effective interventions, and the two students maintained their low levels of problem behavior and high levels of engagement, even in the new environment. Early childhood educators need ongoing support during the initial implementation of interventions. Training alone is not sufficient to improve teachers' instructional skills (Blair et al., 2010). When the researcher completed the FBA and coached teachers and a grandmother during implementation, interventions implemented increased on-task behavior and decreased the disruptive behavior for three children under the age of five who received services in inclusive preschool settings. This study showed that a family member could effectively implement interventions (Wood et al., 2011). After minimal instruction, two classroom teachers were able to implement functional analysis conditions with integrity while continuing to perform their normal classroom

routines. Analysis was also performed in a natural manner using peers who were likely and unlikely to attend to the target child's challenging behavior (Doggett et al., 2001).

Teachers reported that functional analysis was effective in addressing problem behavior, helped children interact positively with teachers and peers, increased academic engagement, helped children enjoy classroom routines, had no negative outcomes, and was appropriate for a variety of students and problem behaviors (Blair et al., 2010; Doggett et al., 2001). Participating staff viewed the individualized PBIS interventions as effective (Blair et al., 2010; Blair et al., 1999; Doggett et al., 2001), feasible, and easily applied to new situations and students (Blair et al., 2010; Doggett et al., 2001). Teachers planned to continue to use functional assessment to provide a positive, more engaging program, support the development of appropriate behavior, and prevent the development of problem behavior (Blair et al., 1999).

Teachers provided with training (Chandler et al., 1999; Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011), consultation (Chandler et al., 1999; Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011; Wood et al., 2011), and collaboration with experts (Blair et al., 2010; Wood et al., 2011) can successfully complete FBAs (Chandler et al., 1999; Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011) and implement Behavior Support Plans (Chandler et al., 1999; Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011; Wood et al., 2011). This support also led to teachers generalizing information learned for specific children and situations to non-targeted children (Blair et al., 1999; Chandler et al., 1999; Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011) as well as to non-trained situations (Blair et al., 2010; Blair et al., 1999). Positive results were obtained with limited training and support, minimal consultation time, (Blair et al., 1999; Gettinger

& Stoiber, 2006; Stoiber & Gettinger, 2011), and minimal intervention duration (Doggett et al., 2001; Wood et al., 2011).

Identify and Synthesize Insights

PBIS can be implemented effectively in early childhood programs (Benedict et al., 2007; Duda et al., 2004; Stormont et al., 2007). Consultation (Benedict et al., 2007; Carter & VanNorman, 2010; Duda et al., 2004; Stormont et al., 2007) and professional development can be used to increase teachers' use of universal and individualized PBIS practices. Minimal interventions can change teacher behaviors and positively affect students' behaviors (Benedict et al., 2007; Carter & VanNorman, 2010; Stormont et al., 2007). Teachers considered the PBIS consultation process effective and would recommend it to other teachers (Benedict et al., 2007; Duda et al., 2004).

Children's behaviors, active engagement, and amount of peer interaction can improve when school-based teams conduct functional assessment with consultation by a behavior specialist. School-based teams can successfully conduct functional assessments when an effective training model is used. Effective training models consist of content focused on examples of intervention strategies, general strategies to prevent challenging behavior and support appropriate behavior, and examples of teams applying functional assessment in school settings. Less emphasis should be placed on terms and concepts, data collection techniques, and research review (Chandler et al., 1999). After training and initial consultation, teams can generalize what they learned to planning and implementing FBAs for other children without the support of consultation. Receiving training and consultation on FBAs and planning and implementing FBAs with initial consultation and then generalizing without consultation decreases children's challenging behaviors

(Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011). Early childhood educators need ongoing support during the initial implementation of interventions. Training alone is not sufficient to improve teachers' instructional skills (Blair et al., 2010). A family member can effectively implement interventions (Wood et al., 2011). With training, classroom teachers can implement functional analysis conditions with integrity while continuing to perform their normal classroom routines. Analysis can be performed in a natural manner (Doggett et al., 2001). Teachers identified functional assessment as effective in addressing problem behavior, helping children interact positively with teachers and peers, increasing academic engagement, and helping children enjoy classroom routines. Teachers found no negative outcomes related to functional assessment and stated it is appropriate for a variety of students and problem behaviors (Blair et al., 2010; Doggett et al., 2001). Staff viewed individualized PBIS interventions as effective (Blair et al., 2010; Blair et al., 1999; Doggett et al., 2001), feasible, and easily applied to new situations and students (Blair et al., 2010; Doggett et al., 2001). Teachers want to continue to use functional assessment to provide a positive, more engaging program, support the development of appropriate behavior, and prevent the development of problem behavior (Blair et al., 1999).

Recommendations

This review of research about using PBIS and FBA in early childhood programs has provided a series of recommendations to guide programs, administrators, and teachers.

Programs:

- 1) Need target interventions that are research based, easy to implement, and perceived positively by teachers (Stormont et al., 2007).
- 2) Need to identify individuals who can provide training and classroom support. Classroom support should focus on providing teams with skills that would allow them to conduct functional assessment and implement intervention strategies. Follow-up procedures should be initiated and maintained across time with periodic check-ins by consultants, and a procedure should be created for teams to request follow-up (Chandler et al., 1999).
- 3) Need school-based teams to complete functional assessments. This approach is advantageous for several reasons: (a) provides a proactive approach that teaches children what they should do rather than punishing children for engaging in challenging behavior, (b) focuses on prevention and remediation of challenging behavior by identifying antecedents and consequences that may be related to challenging and appropriate behavior, (c) provides a common language and procedure to address challenging behavior, (d) provides a method of assessment that can be used with any challenging behavior, regardless of individual child characteristics, and (e) provides a consistent method for selecting interventions that address the function of the behavior (Chandler et al., 1999).

Administrators:

- 1) Need to provide staff with training sessions that include examples and demonstrate that applications are effective. Team members need to learn

to identify triggers and the functions of behaviors, apply interventions based on functional assessment data, and to make simple changes in classroom environments to reduce the frequency of challenging behavior. Strategies include to provide choices, have well-organized centers, limit the number of children in potentially crowded spaces, and to provide children with leadership opportunities and responsibilities in the classroom (Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011).

- 2) Need to provide functional assessment training to school-based teams. After training, FBAs should be completed by school-based teams (Gettinger & Stoiber, 2006; Stoiber & Gettinger, 2011).
- 3) Need to provide feedback to teachers. Teachers will make data-driven decisions when they receive individualized feedback about their teaching. Graphical feedback is an especially effective way to motivate and reinforce teacher behavior in implementing effective PBIS strategies (Carter & VanNorman, 2010).

Teachers:

- 1) Need to implement PBIS at the beginning of the academic year or even prior to school starting, when it is natural for teachers to plan classroom materials, organization, and lessons (Benedict et al., 2007).
- 2) Need to dedicate themselves to collaborating with experts and families and to the process of designing and implementing behavior support plans (Blair et al., 2010; Chandler et al., 1999).

- 3) Need to consider procedures, routines, rules, visuals, clear and defined classroom areas, teacher instructions, length of lessons, types of lessons, difficulty of activities, and group dynamics when making decisions based on data collected. Many aspects of the environment influence students' behaviors (Krasch & Carter, 2009).
- 4) Need to use a group data collection system that is quick, simple, and manageable. Krasch and Carter (2009) reassured teachers that group data collection gets easier with practice.

Future Projects/Research

In early childhood education, families and professionals need to learn from and with one another (Hemmeter et al., 2006). Future research on PBIS consultation should focus on how consultation affects individualized supports within the secondary and tertiary levels of PBIS (Carter & VanNorman, 2010). Researchers should investigate the relationship between implementation fidelity and gains in academic engagement and the reduction of challenging behavior (Duda et al., 2004). Future research should occur at the beginning of the school year and document problem behavior rates, as well as academic engagement to better assess the effects of the process on student behavior (Carter & VanNorman, 2010). Research should identify factors that account for staff failure to implement PBIS strategies and what variables relate to differential implementation, as well as the attitudes and perceptions of classroom staff during baseline, implementation, and maintenance (Duda et al., 2004; Stormont et al., 2007). Future research needs to address the potential for differential effects of professional development alone, PBIS consultation alone, and professional development plus PBIS consultation (Benedict et al.,

2007). Researchers should work towards identifying the optimal consultation schedule and duration of consultation required for implementation fidelity (Benedict et al., 2007, Carter & VanNorman, 2010). Research that extends PBIS consultation to programs versus individual classrooms would also be beneficial (Benedict et al., 2007). Current research does not investigate the effectiveness of peers instead of experts coaching and consulting (Carter & VanNorman, 2010).

Future research should focus on classroom staff conducting the FBA, the ability of the staff in developing interventions that effectively address behavior challenges, and the staff's ability to maintain the integrity of implementation across time. Research should also be conducted in both school and home settings. This would show generalization of replacement skills to different settings with different implementers and might lead to long-term skill maintenance. Future studies would benefit from collecting off-task and disruptive behaviors, as well as evaluating changes in pre-academic skills and task completion (Wood et al., 2011).

Educational Policies

PBIS is rapidly moving from an experimental phase to widespread implementation that is accepted as the norm. PBIS is an ideal combination of positive and skill-focused interventions that reflect the best practices available to young children and their families (Duda et al., 2004). Classroom quality can be increased if programs make a clear, sustained commitment to improvement by offering intervention services that include workshops on classroom management paired with in-class mental health consultation. Current policies and practices must change from being reactive to being proactive by identifying children who are exposed to multiple established risk factors or

who demonstrate challenging behavior at an early age. Prevention and early intervention services are needed to effectively address future behavioral, developmental, and educational difficulties (Conroy & Brown, 2004). Lack of resources is making it difficult for programs to sustain a systematic evaluation plan. Current trends in accountability are placing increasingly greater demands on early childhood programs to evaluate outcomes. In those programs where systematic evaluation information is collected, leadership teams and teachers are using data to guide their implementation efforts (Hemmeter et al., 2007). Teachers and administrators need to implement and then monitor the effectiveness of classroom management strategies on child behavior to promote developmentally appropriate social growth (Jollivette & Steed, 2010).

Teacher Practices of Self & Others

Professional development, collaboration with colleagues, and this review have assisted me in implementing and maintaining universal PBIS strategies in my classroom. We created and taught lesson plans to teach students classroom and school procedures and expectations, created classroom expectations together, and then posted them with words and pictures. Classroom procedures and expectations were re-taught and practiced as needed. I created a more structured lining up process using numbered cards and footprints. A classroom picture schedule was posted. Both large group and individual acknowledgement systems were also used. We read books and then discussed emotions and problem solving. Students were directly taught how to use the PBIS problem solving tool kit.

Reflecting on my teaching and student outcomes before and after receiving training on PBIS, I attribute fewer challenging behaviors to implementing PBIS

strategies. However, I have also had a student with challenging behavior who did not respond to the PBIS strategies I implemented. This experience showed that we need more professional development time and training focused on children who require strategies from the tertiary level. We also need to develop procedures and a team to help support teachers and to identify and recommend effective strategies.

Preschool teachers from the Howard-Winneshiek Community School district attended a one-day training on the Inclusion Module of PBIS in Des Moines in August 2012. Time is dedicated to discussing and reflecting PBIS at each of our monthly in-services during the 2012-2013 school year. We had an AEA staff member designated as our PBIS coach during the 2012-2013 school year. At the state level, PWPBIS and SWPBIS leaders are beginning to collaborate and it has been recommended that a staff member from our early childhood development center become a part of the Howard-Winneshiek SWPBIS team and act as a liaison between the Howard-Winneshiek SWPBIS team and the early childhood teachers. This person would also communicate with the AEA staff member who has been designated as our PBIS coach. I have been nominated for this position. I have also developed a written proposal that I will present to the early childhood staff and childcare staff at our center that were involved in the PBIS training. This proposal invites their participation in starting PWPBS at our center, identifies how PWPBS will assist them in preventing challenging behavior in their classrooms, presents examples and identifies resources to aid in this process, lists beginning steps to start the process, and suggests a peer coaching model to aid in implementation and accountability. PWPBS is a process and I will continue to advocate for its implementation, model strategies, and participate in continued training.

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